



29th May, 2017

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VIA Canada Post and RESS Filing

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge St.
Toronto, ON
M4P 1E4

**Re: EB-2016-0152 Ontario Power Generation Inc.
2017-2021 Payment Amounts Application
The Society of Energy Professionals' Final Submissions**

Dear Ms. Walli,

As per the schedule outlined in the OEB's procedural order no. 8 in the subject proceeding, dated the 18th of April, please find attached The Society of Energy Professionals' Final Submissions in the Ontario Power Generation Inc. 2017-2021 Payment Amounts Application, EB-2016-0152.

Two (2) hard copies of this submission have been sent to your attention.

Sincerely,

[Original signed by]

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**The Society of Energy Professionals
FINAL SUBMISSIONS**

EB-2016-0152 Ontario Power Generation Inc.

2017-2021 Payment Amounts Application

29th May, 2017

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EB-2016-0152: The Society Final Submissions

Introduction:

This is the Final Argument of The Society of Energy Professionals (“The Society”) in the Ontario Power Generation Inc. (OPG) 2017-2021 Payment Amounts Application, EB-2016-0152. This Argument is organized by issue in a manner similar to the Ontario Energy Board staff submission in this proceeding, dated the 19th of May, 2017.

Rather than put forward positions on all issues, The Society has chosen to limit itself to those largely which it considers to be of primary concern to its interests and where it can provide a different perspective for the OEB’s consideration in reaching its decision in this proceeding.

On the other issues, The Society supports the position put forward by the Company.

ISSUE 4.5 Are the proposed test period in-service additions for the Darlington Refurbishment Program (DRP) appropriate?

The Society supports the DRP program as put forward by OPG in its submission. OPG has over 200 Society-represented employees at OPG working on the DRP and The Society has complete confidence in the ability of these employees to be part of the team which delivers this project on schedule, on budget and safely.

Specifically, the program is consistent with the Government direction provided and will deliver numerous benefits to the Province as summarized in evidence¹ as well as in numerous points during the oral hearing²:

As stated by the Minister of Energy in Ontario’s LTEP (Long Term Energy Plan): “[t]he government is committed to nuclear power. It will continue to be the backbone of our electricity system, supplying about half of Ontario’s electricity generation.”³ The Minister further stated in the LTEP:

The government will ensure a reliable supply of electricity by proceeding with the refurbishment of the province’s existing nuclear fleet taking into account future demand levels. Refurbishment received strong, province-wide support during the 2013 LTEP consultation process. The merits of refurbishment are clear:

- *Refurbished nuclear is the most cost-effective generation available to Ontario for meeting base load requirements.*

¹ Exhibit D2 Tab 2 Schedule 1 pp10

² For example, Tr. V22, 12 April 2017 pp24

³ Government of Ontario, Achieving Balance – Ontario’s Long Term Energy Plan, December 2013, p. 30.

- Existing nuclear generating stations are located in supportive communities, and have access to high-voltage transmission.
- Nuclear generation produces no greenhouse gas emissions.⁴

As outlined in evidence and during oral testimony, consistent with best practices, the DRP has been extensively planned with the integration of lessons learned, engineering completion and reactor mock-up, tool fabrication and testing.⁵

Further, Pegasus Global Holdings, Inc. (“Pegasus-Global”) was retained by OPG in April 2016 to provide an independent and objective assessment of the degree to which OPG’s plan and approach to execution of the Program are consistent with the way other projects of comparable magnitude, scale and complexity have been carried out. Pegasus’ testimony was provided in July 2016 and submitted in evidence.⁶ As summarized in evidence:

Pegasus-Global concluded OPG has reasonably and prudently prepared for its execution of the DRP, and that OPG’s approach for executing the Program is consistent with the approach typically used on other megaprograms, and in several areas, is exemplary relative to other megaprograms of similar magnitude, scale, and complexity. Pegasus-Global also observed that the extensive pre-execution planning that was undertaken by OPG places it in a favorable position to have successful execution of the Program.⁷

As outlined in direct testimony⁸ by Dr. Patricia Galloway CEO of Pegasus Global Holdings Inc. (who was accepted as an expert in megaprojects and megaprograms, including execution, planning, risk management, prudence in project controls⁹), as well as reiterated in extensive cross examination:

“Based on the review that Pegasus Global undertook of OPG’s organization, its structure, its policies, its procedures, its project controls, its risk management and assessment, and based on the interviews of OPG personnel, I found that OPG had reasonably and prudently prepared itself for the execution of the Darlington refurbishment project.

Secondly, I found that OPG, in its approach to this megaprogram, is that as is typically found in the planning of other megaprograms in which I am familiar. The extensive preplanning that was conducted for the Darlington

⁴ LTEP, page 29.

⁵ e.g. Exhibit D2 Tab 2 Schedule 4 pp3-7

⁶ Exhibit D2 Tab 2 Schedule 11, Attachment 3

⁷ Exhibit D2 Tab 2 Schedule 11 pp1

⁸ Tr. Vol 5, March 6, pp 138,139

⁹ Tr. Vol 5, March 6, pp 126,137

refurbishment program favourably positions OPG to successfully execute the DRP.

That extensive preplanning included extensive lessons learned from other refurbishment projects, from other nuclear programs, from other megaprograms. It included the use and application and development of industry best practices into its policies, procedures, and project control systems, of which I found that to be reasonable. And its preparation of a detailed estimate and schedule that was based on a thorough and robust probabilistic model, OPG established a P90 confidence level and an approach contingency. That basically means that there would be a 90 percent probability that the Darlington project will come in within the estimated cost and schedule, and I found that process in that P90 and the allocation to be reasonable.”

Regarding her assessment of the extensive planning done for DRP as compared to other utilities, in reply to the OEB’s Ms. Fry, Dr. Galloway stated:

As I indicated, most of the projects in the States do not have this extensive preplanning. In fact, none of them have the extensive [p]replanning and in fact, probabilistic modelling comes in typically after the project has been approved, when they go forth to look at their cost estimate when they refine that cost estimate and at that time, they will decide whether or not they need to come forth to the commission for any types of increase.¹⁰

OEB staff also engaged an expert in project controls, risk management, and contracting in the context of construction projects, including megaprojects, Mr. Kenneth Roberts (a partner in the law firm Schiff Hardin LLP). Dr. Galloway summarized the similarities between their separate assessments of DRP¹¹:

“... there were numerous similarities between Mr. Roberts' testimony and mine. We both make the same overarching conclusion that OPG has reasonably and prudently prepared for the execution of the DRP, and I think that he makes almost the exact same statement that I do. We have both concluded that the risk management process used by OPG is in accordance with industry best practices and utility industry practices and that it is a -- was found to be a reasonable process. We similarly found that the organizational structure, the policies, the procedures, and the project control systems were all found to be within industry best practices and were reasonable that OPG has executed on this -- implemented for execution on the DRP. We also similarly found that due to there being multiple variables between each megaprogram that it is not reasonable to make an apples-to-apples comparison between different megaprograms, and so we are both in agreement on that conclusion.”

¹⁰ Tr. Vol 6, March 7, pp19

¹¹ Tr. Vol 5, March 6, pp142

Mr. Roberts substantiated this view of Dr. Galloway regarding the similarities between their testimonies during his own lengthy cross examination by intervenors. For example, Mr. Roberts stated under cross examination:

*“Galloway testified to this, that the robustness in terms of time and effort that OPG has put into this project is significantly above and beyond what most of these other megaprojects have done. So on the planning stage and the process and procedure side of the equation, it is a very sound, very prudent approach. **And it would be hard for somebody, I think, to find fault with the level of effort that OPG has put on the planning side.**”¹²*

As compared to OEB staff and some intervenors, Mr. Roberts also strongly supported the use of the P90 estimate by OPG:

“In fact, I mean, I think that on the process and procedure part of it, using a P90 in and of itself is a prudent, you know, decision. It's certainly, you know, something that I think anybody in the industry would say gives you a higher probability you're going to hit budget and schedule.”¹³

“I would tell you I think best practice is that you would have a higher level of certainty at the planning stage, i.e. a P90, as to where you were, that that should give you theoretically a better chance to budget and schedule.”¹⁴

“And that -- I'm not familiar with anyone that I've come in encounter with that would be resistant to using a P90. I think Galloway talked about it. The truth of the matter is the vast majority of projects -- put aside megaprojects. The vast majority of large capital improvement projects simply don't have the luxury of time, of the resources to develop a P90 before they go out. That's just a fact. So OPG has taken advantage, has by design made sure that they had that luxury of time and effort to develop that P90. For the life of me, I'm not sure why anybody would be against using a P90. It gives you a higher predictive analysis at the planning stage as to how things should go, which should result -- should result in a higher probability, if you can execute that plan, of a project coming in closer to budget, closer to schedule.”¹⁵

“So you have to be careful, I think, in thinking that that P90 somehow is the upper range of an analysis and that OPG in essence is trying to game you by using a P90. If I put you on a plane and took you to ten other projects, ten other boards, I don't think you'd be hearing people saying P90 is trying to game the system and it's the upper range.”¹⁶

¹² Tr. Vol 7, March 9, pp46

¹³ Tr. Vol 7, March 9, pp51,52

¹⁴ Tr. Vol 7, March 9, pp88

¹⁵ Tr. Vol 7, March 9, pp98

¹⁶ Tr. Vol 7, March 9, pp99

*"-- can different P levels being used at different stages? Yes. My answer to you, though, is that different P levels are usually used at different stages because that's as far as they got in their analysis at the time they had to use it. It's not that they chose to go with the lower, as opposed to a higher P factor --"*¹⁷

The Society submits that based upon the expert testimonies given by both Dr. Galloway and Mr. Robert, it would be prudent and appropriate of the OEB in its Decision to accept and approve the P90 estimate of DRP.

4.5.1 DRP Staffing Shortfall

Both external experts Galloway and Roberts discussed the importance of having the required staffing levels for DRP. This underlines The Society's concerns regarding the continued understaffing that is present in the DRP and its potential impact on the efficacy and timeliness of programme completion. Specifically, it is shown in J3.3 Attachment 1 that the gap between January 2017 month end staff are 186 or 17% lower than the RQE planned February month end levels. The Society submits that OPG should be directed by the OEB in its Decision to make up this staffing gap with the necessary regular staff hires ASAP.

4.5.2 OEB Staff Recommendations re: DRP Project Management and Oversight Functions Reductions

In the OEB staff submission in this proceeding, dated the 19th of May, 2017, staff have recommended that the OEB should order a reduction of 13% to the total requested in-service amounts associated with labour costs (including the related interest and escalation cost forecasts) for the Project Management and Oversight functions for the DRP during the test period. Staff state that this reduction is consistent with the under-spending for labour associated with the Project Management and Oversight functions in 2016. [pp47]

The Society submits that this OEB staff recommended reduction is unwarranted and should be disregarded by the OEB in its decision.

Specifically, on page 42 of their submission, OEB staff state:

OEB staff submits that OPG has planned effectively and has implemented an appropriate framework that provides it with the capacity to execute the DRP successfully. The company is quite properly treating the DRP as a "destiny project", and there appears to be a corresponding sense of internal accountability: OPG's CEO told the OEB that he considers his job to be on the line. Furthermore, OEB staff agrees with the testimony of Schiff Hardin that OPG's detailed planning during the definition phase of the DRP mitigates some of the risk that may arise during the execution phase. However, no amount of planning is a guarantee of successful completion.

¹⁷ Tr. Vol 7, March 9, pp100

However, OEB staff are recommending reductions in planned staffing levels which will put at risk the successful execution of DRP. This appears entirely counter intuitive, arbitrary and unwarranted; and as such, this staff recommendation should be disregarded by the OEB in its Decision.

Issue 6.1 Is the test period Operations, Maintenance and Administration budget for the nuclear facilities (excluding that for the Darlington Refurbishment Program) appropriate?

6.1.1 Introduction of a New Random Drug and Alcohol Testing Program

OPG has included in its budget and revenue requirement an amount of \$41 million over the test period, commencing in 2019, to accommodate expected new drug and alcohol testing requirements to be imposed by its nuclear regulator, the Canadian Nuclear Security Commission (CNSC). Mr. Stephenson of the Power Workers' Union questioned OPG's witnesses on this matter on March 27 (Tr. Vol 13, March 27, pp109-122) and again on April 6 (Tr. Vol 20, Apr 6 pp160-164).

The OPG evidence is that this is a non-discretionary cost likely to be introduced in the mid-term. The costs were not included in OPG's initial submission and were added as an update once greater definition of the proposed program was available from discussion with the CNSC. OPG has had verbal discussions with the CNSC and has responded in writing to a CNSC position paper on the issue by challenging the stated need for and net benefits of an incremental program.

In responding to Mr. Stephenson's questions, OPG witnesses agreed that they had no firm knowledge of the exact nature of any new regulatory requirements, no ability to accurately estimate the timing of implementation, and no assurance that any proposed program would survive the almost certain legal challenges to be brought. In responding to Mr. Stephenson's enquiry as to why such an uncertain cost was included in forecast revenue requirement and whether it would not be better suited in a variance account, Ms. Carmichael stated:

"I would say we don't agree or do not propose that this is in a variance account. That's not our application as developed. Our costs -- our costs can have pushes during this five-year rate application. It could have some savings. It's basically a balancing act over the five years." (Tr. Vol 13, March 27, pp119- 120).

The Society recognizes that certain budget items may have measurement uncertainty and that there are always puts and takes in any cost of service style application. However, in this case, in addition to measurement uncertainty we are dealing with the question of the questionable existence of a new cost category. Will this potential new cost element even arise in the test period? OPG's witnesses did not provide a high level of assurance that the cost would come into existence in 2019 or that they could estimate it accurately.

The Society does not believe that such a contingency should be included in core revenue requirement given the inability of the OEB and intervenors to satisfy themselves on the prudence of something that may or may not become an incurred cost sometime in the test period. Inclusion in a variance account would appear to be a more reasonable alternative given the relatively significant amount, the inability of the applicant to control cost incurrence and given the difficulty in forecasting the timing and amount. This would be preferable to the more draconian option of simply disallowing the cost.

In responding to Mr. Stephenson's question on April 6, Mr Fralick agreed:

"MR. STEPHENSON: And again, if it does take a different view of that matter -- in other words, it's not satisfied that this is sufficiently likely -- I take it from OPG's perspective your fallback position would be we should get a variance account on this, as opposed to having just a disallowance altogether? I mean, isn't that right? I mean, because you may well have to incur these costs."

"MR. FRALICK: Yeah, no, absolutely. I think that's a fair characterization. You know, we wouldn't want to not be able to recover these costs should they be required by the regulator, but ultimately, you know, we're not looking for ways to increase our revenue requirement for things we don't think are going to proceed. So if your proposition is that these should be captured in a deferral and variance account, ultimately our interest is recovering the cost for these, whatever it may be." (Tr. Vol 20, Apr 6 pp163-164)

If the OEB declines to include this new cost in revenue requirement, the Society supports the creation of a new variance account to track the actual costs of any new CNSC drug and alcohol testing program, as suggested by the Power Workers' Union's counsel.

ISSUE 6.2: Is the nuclear benchmarking methodology reasonable? Are the benchmarking results and targets flowing from OPG's nuclear benchmarking reasonable?

6.2.1 Goodnight Nuclear Staffing Study

The Society submits that OPG has eliminated the gap between the company's nuclear staffing and benchmark in 2016, as identified by Goodnight Consulting Inc. and supports OPG's contention that it will continue at this benchmark level through the test period. Details follow.

OPG engaged Goodnight to benchmark its nuclear staffing levels, normalized for CANDU technology differences, against nuclear industry peers between 2011 and 2014. OPG staff levels were 17% above its industry peers in 2011 but by 2014 this gap was reduced to 4% largely due to assorted efforts on OPG's part.

As confirmed by OPG in reply to Society IR 3 (Ex. L-6.2-19 SEP-003(a)), Goodnight Consulting has not conducted a subsequent review, rather OPG conducted an

internal analysis of functional staffing as of March 2016, which indicated that the overall benchmark gap has been more than eliminated. Further, OPG anticipated that the resulting benchmarked FTEs at yearend 2016 would continue to remain at or below the 2014 Goodnight benchmark. In fact, actual 2016 staffing levels were substantially below OPG's projected levels and below the 2014 Goodnight benchmark.

And as confirmed in testimony¹⁸, OPG's view is that since the last Goodnight benchmarking study was done in 2014, the industry benchmark levels will have increased due to regulatory factors such as increased security needs, cyber security, Fukushima etc.

Further, as stated by OPG in reply to Society IR 3b) (Ex. L-6.2-19 SEP-003(b)), OPG FTEs are expected to continue to be at or below the Goodnight benchmark level:

*"... as Darlington Refurbishment commences in October 2016 and preparations begin for Pickering End of Commercial Operations, staffing will change for reasons beyond the benchmarked scope, particularly in operations and maintenance. However, after taking the anticipated operating changes into consideration, **the resulting benchmarked OPG FTEs during 2017-2021 are expected to continue to remain at or below the 2014 Goodnight benchmark.**"*

6.2.2 Targeted Improvements in Benchmarked Levels (Gap Based Business Planning)

The Society submits that OPG has identified various initiatives which it has underway which will through the test period improve the efficiency and effectiveness of its nuclear operations to the advantage of the ratepayer.

Specifically, in submitted evidence as well as in response to Society interrogatories, OPG confirmed that it was targeting as well as confident in meeting improved levels in assorted metrics, including:

- a) The **18-Month Human Performance Error Rate [HPER]** (Events per 10k ISAR Hours) for both Pickering and Darlington is targeted to meet median levels in 2016 to 2018. The expected benefit of improving Human Performance will be to reduce lost generation due to human error. In 2013, approximately 2.4 TWh of lost generation could be attributed to Human Performance shortfalls that resulted in outage delays and extensions, and work management inefficiencies. The energy losses due to Human Performance fell in 2014 to 1.6 TWh and improved once again in 2015 to approximately 0.44 TWh of lost nuclear generation. Improved human performance as measured by HPER will enable OPG to achieve its 2016-2018 Business Plan targeted forced loss rate and unit capability factor. The

¹⁸ Tr. Vol 13, March 27, pp55

- company's nuclear generation forecast is at risk to the extent that OPG is not successful in reaching these HPER targets.¹⁹
- b) The **Equipment Reliability Index (ERI)** is an overall index of equipment reliability based on a weighted composite of key indicators. The maximum ERI score is 100. The ERI provides a process for identifying gaps or performance shortfalls in key processes for action by the station. The ERI for both Pickering and Darlington has improved substantially between 2012 and 2015 [25% and 7% respectively]. OPG is targeting to further improve the Pickering ERI by 10% and the Darlington ERI by 20% between 2016 and 2019. OPG is currently undertaking several initiatives to improve and sustain overall equipment reliability across the fleet.²⁰
 - c) **The Outage Performance Initiative:** This initiative is focused on improving planned outage performance in order to achieve business plan duration targets. The major deliverables from this initiative include seeking reduced outage durations as they constitute significant generation losses (e.g., 2015: 48 days).²¹
 - d) **The Parts Improvement Initiative** will improve parts availability performance as it directly impacts OPG's ability to schedule and execute online, outage and project work in a consistent and predictable manner. The overall duration it takes to complete a job that requires parts (i.e., Cycle Time) is expected to improve to 650 days by the end of 2018. This compares to an average fleet duration of 760 days at start of the initiative.²²
 - e) An **Inventory Reduction Initiative** has been established to optimize inventory and reduce costs. The objective of the initiative is to reduce the historical inventory growth rate, which will mitigate \$110M in growth from 2016 to 2021. The lower growth rate is accounted for in the calculation of the inventory obsolescence provision through the test period. Without achieving the reduced growth rate, the impact, holding all other variables constant (i.e., projected consumption during test period, project consumption nearing end of life, salvage value, etc.), would be an increase in the provision of \$1.5M per year over the test period.²³
 - f) OPG has established an **All Injury Rate** (per 200k Worked Hours) target substantially below market best quartile.²⁴ Reducing worker injury rates not only is an important health and safety issue but also improves efficacy of work execution.

ISSUE 6.5: Are the test period expenditures related to extended operations for Pickering appropriate?

¹⁹ Ex. L-6.2-19 SEP 004 a), c)

²⁰ Ex. L-6.2-19 SEP 005

²¹ Ex. L-6.2-19 SEP 006

²² Ex. L-6.2-19 SEP 007

²³ Ex. L-6.2-19 SEP 008

²⁴ Ex. L-6.2-19 SEP 009.5

The Society supports OPG's proposal regarding Pickering Extended Operations (PEO), a plan to pursue continued operation of the Pickering Generating Station beyond 2020 up to 2024. The Society submits that the OEB accept OPG's proposal for POE for the reasons which follow.

This proposal has numerous benefits as outlined by the Province in its January 2016 press release²⁵, where it announced its approval of OPG's PEO plan. In this press release, Mr. Bob Chiarelli, the then Minister of Energy, outlined that "continuing operations at Pickering will protect 4,500 jobs across the Durham region, provide emissions-free electricity, and save Ontario electricity consumers up to \$600 million."

In particular the continuing operations at Pickering Generating Station will avoid 8 million tonnes of greenhouse gas emissions, which is the equivalent to taking 490,000 cars off Ontario roads. This significant environmental benefit would be lost to the people of Ontario if natural gas fired generating stations were used in place of Pickering through this period.

Further, as outlined by the IESO witness Mr. Andrew Pietrewicz, Director of Resource Integration, in his oral testimony, it is important to have Pickering available in the early 2020's as there are huge changes and a transition underway in the Ontario electricity market whose pace and magnitude of change will exceed the changes we've just come through by closing 7000 MWs of coal fired generation earlier this century.²⁶ As stated by Mr. Pietrewicz, the IESO has "supported the continued exploration of this Pickering extension concept, not because we know what gas prices will be or we know what the performance of Pickering will be, but because a lot of things are moving on the system today".

Elements of these changes and transition, which in sum exceed the impact of retiring 7000 MWs of coal fired generation, include²⁷:

- The refurbishment of up to eight and a half thousand megawatts of nuclear generators in Ontario.
- The retirement eventually of 3000 megawatts of nuclear generating capacity at Pickering.
- The aging effect on power generators in the late 2020's resulting in lower reliability
- Of the 40,000 megawatts of today's Ontario installed capacity, by 2024 about 4000 megawatts of supply will reach its commercial term; by 2029 about 10,000 megawatts capacity will reach its commercial term; by 2032 about 18,000 megawatts of that capacity will reach its commercial. This is

²⁵ L-6.5-1 Staff 115, Attachment 1

²⁶ Tr. Vol 8, March 10, pp87-92

²⁷ Tr. Vol 8, March 10, pp87-92

- comprised primarily of gas generators in the 2020's and green generators in the 2030's. Whether they will continue to operate or not is still an open question and is a potential source of change.
- there is the potential for electrification of transportation vehicles in the next decade (ie cars, trucks, & mass transit such as buses, GO transit, Toronto's UP Express, rail etc) to increase Ontario electricity demand to between 170 TWh to 200 Twh.

As concluded by Mr. Pietrewicz:

*"A lot of that is distilled into the early to mid and late 2020s, when we have the maximum refurbishments going on in our fleet. And for that reason, aside from the potential for economic benefit, aside from that potential which we acknowledge here can be plus or negative, right? We don't know. But aside from all that, **we think that Pickering provides some important potential coverage during that period of transition.**"²⁸*

Finally, as noted by OPG's Ms. Carmichael in cross examination, Pickering further provides value as "we have provided evidence -- I believe it's chart 3, F-2-1-1 -- which shows that when you normalize for the unit size, Pickering is one of the lowest cost performers in all of North America".²⁹

Issue 6.6 Are the test period human resource related costs for the nuclear facilities (including wages, salaries, payments under contractual work arrangements, benefits, incentive payments, overtime, FTEs and pension costs, etc.) appropriate?

The Society submits that the current compensation levels for Society, PWU and non-represented staff are reasonable having been benchmarked to be at market levels. If the 75th percentile was applied for benchmarking, as The Society submits, OPG would be below market levels. With planned compensation increases per FTE being substantially below expected inflation of 2% between 2015 and 2021, OPG compensation levels will decline further in real terms through the test period and will be even closer to the benchmarked market compensation point estimate or perhaps below that point estimate or below the at-market range. In addition, through the 2015-2021 period, large numbers of highly paid senior staff will be retiring and will be replaced with younger, lower paid staff which will also lower OPG's compensation level through the period. Benchmarked 2015 OPG compensation levels are also below Bruce Power levels and will further decline due to the significant delta between the annual economic increases between the two companies. The Society cumulative wage increases in the 2001 to 2017 period as compared to the PWU are 9% lower.

²⁸ Tr. Vol 8, March 10, pp92

²⁹ Tr. Vol 13, March 27, pp31

The Society also submits that the OEB in its Decision should direct OPG to undertake aggressive hiring measures and meet its planned 2017 regular staff levels as well as re-evaluate and materially increase its regular staff levels in the latter part of the test period.

The Society also submits that the OEB should reject OEB staff recommendations regarding compensation reductions.

Details follow below.

6.6.1 OPG Wages Are To Increase Below Inflation Between 2015 and 2021

The Society submits that with OPG total compensation per FTE increases of only 0.6% per year between 2015 and 2021 as per OPG submitted evidence, OPG wages are reasonably priced. This average annual increase is substantially less than expected inflation of about 2% through this period. As such, real OPG wages will decline by 140 basis points per year cumulatively through the 2015 to 2021 period. In addition, through the 2015-2021 period, large numbers of highly paid senior staff will be retiring and will be replaced with younger, lower paid staff which will also lower OPG's compensation level through the period.

Specifically, as provided in Ex. K16.1 pp9, the annual simple average increase in OPG total compensation per FTE through 2015 to 2021 is only 0.6% per year based upon the OPG evidence. As confirmed in testimony by OPG's Ms. Rees, this is the increase in total compensation including wages, benefits, pension contributions, lump sum payments and the share grants [Tr. Vol 16, March 31, pp33, ln18-24]. This 0.6% per year increase in total compensation per OPG FTE is substantially below expected inflation of about 2% per year [Exhibit L Tab 6.6 Schedule 13 PWU-015 ln30-31].

6.6.2 OPG Compensation At Market Levels

The Willis Towers Watson 2016 compensation benchmarking study demonstrated that OPG Society, PWU and non-represented employees receive compensation that is considered to be at market. If the 75th percentile was applied for benchmarking, as The Society submits, OPG would be below market levels. The Society submits that this demonstrates that OPG compensation levels are reasonable in the labour market. Further, as discussed in 6.6.1, OPG's forecast increases in pay per OPG FTE for the 2015 to 2021 period averages 0.6% per year per OPG FTE; this is substantially below expected inflation of about 2% per year. Consequently, The Society submits that when a benchmarking study is done in 2021 based on 2020 data for the next OPG major 5 year application, with such small annual compensation increases, OPG employees would be even closer to the benchmarked market compensation point estimate or perhaps below that point estimate or below the at-market range. And as outlined earlier, in addition, through the 2015-2021 period, large numbers of highly paid senior staff will be retiring and will be replaced with younger, lower paid staff which will also lower OPG's compensation level through the period. Details follow.

6.6.2.1 Willis Towers Watson Study Methodology

Willis Towers Watson was engaged by OPG to conduct a comprehensive benchmarking survey that compared a wide range of OPG positions to corresponding positions in the comparator organizations. This benchmark review was conducted on a segmented basis: Utility, Nuclear Authorized and General Industry. Roles were benchmarked against comparator organizations best representing the underlying skill sets required and 78% of OPG incumbents are in roles covered by this benchmark review. The study was submitted on April 22, 2016 and was based on 2015 compensation. [Ex. F4-3-1 Attachment 2]

Compensation benchmarking results are considered to be at market if they are within +/- 10 per cent of the target market positioning. OPG's target market positioning is the 50th percentile for positions in the Utility and General Industry segments, and 75th percentile for the Nuclear Authorized segment. [Exhibit F4-03-01 pp18]

Nuclear Authorized positions are targeted at the 75th percentile except for senior executives in this segment which are target at the 50th percentile (Ex. F4-3-1, Attachment 1, p. 11). OPG targets the 75th percentile to recognize the greater scope and complexity of these jobs at OPG (Tr. Vol. 16, pp. 56-58; JT2.33; Ex. L-6.6-1 Staff-153(b)).

For non-authorized roles residing in nuclear plants, no direct matches were available, however it is view of Willis Towers Watson that comparable skill sets reside within energy and utilities organizations. As such, jobs were matched to non-nuclear comparators based on similar skills and level of accountability (Ex. F4-3-1, Attachment 2, p. 7).

The Society submits that the OPG positions in the Utility group should be targeted at the 75th percentile as its positions include a large number of non-authorized nuclear roles which require additional knowledge and training which are not present in the general Utility segment comparator group.

6.6.2.2 Willis Towers Watson Study Results: OPG At Market Level

Overall, Society, PWU and non-represented employees receive compensation that is considered to be at market. If the 75th percentile was applied for benchmarking, as The Society submits, OPG would be below market levels. Society represented employees in the Utility segment receive compensation that is considered to be at market, and is comparable to that provided in the comparator organizations. Society represented employees in the Nuclear Authorized segment receive compensation that is considered to be below market. 80 per cent of Society represented employees work in the Utility and Nuclear Authorized segments. [Exhibit F4-03-01 p20]

6.6.2.3 In 2020 OPG Will Be Even Closer or Below Market Level

At OPG's next five year application proceeding for the test years 2022-2026, which would take place in 2021, the submitted compensation benchmarking study will be based on 2020 compensation levels levels.

The Society submits that this 2021 compensation benchmarking study will have results which show Society, PWU and non- represented employees even closer to market than the 2016 study results, or possibly below market. This is due to several factors. Firstly, the 2015 data used in the 2016 study does not include the impact of the 2016 to 2018 Society contract which has resulted in 1% per year increases in Society compensation, which are substantially below inflation. Secondly, as discussed in 6.6.1, OPG's forecast increases in pay per FTE for the 2015 to 2021 period averages 0.6% per year per OPG FTE; this is substantially below expected inflation of about 2% per year. Consequently, when a benchmarking study is done in 2021 based on 2020 data for the next OPG major 5 year application, with such small annual compensation increases, OPG employees would be even closer to the benchmarked market compensation point estimate or perhaps below that point estimate or below the at-market range.

In addition, through the 2015-2021 period, large numbers of highly paid senior staff will be retiring and will be replaced with younger, lower paid staff which will also lower OPG's compensation level through the period. Finally, if the 75th percentile was applied for benchmarking, as The Society submits, OPG would be even further below market levels by 2020.

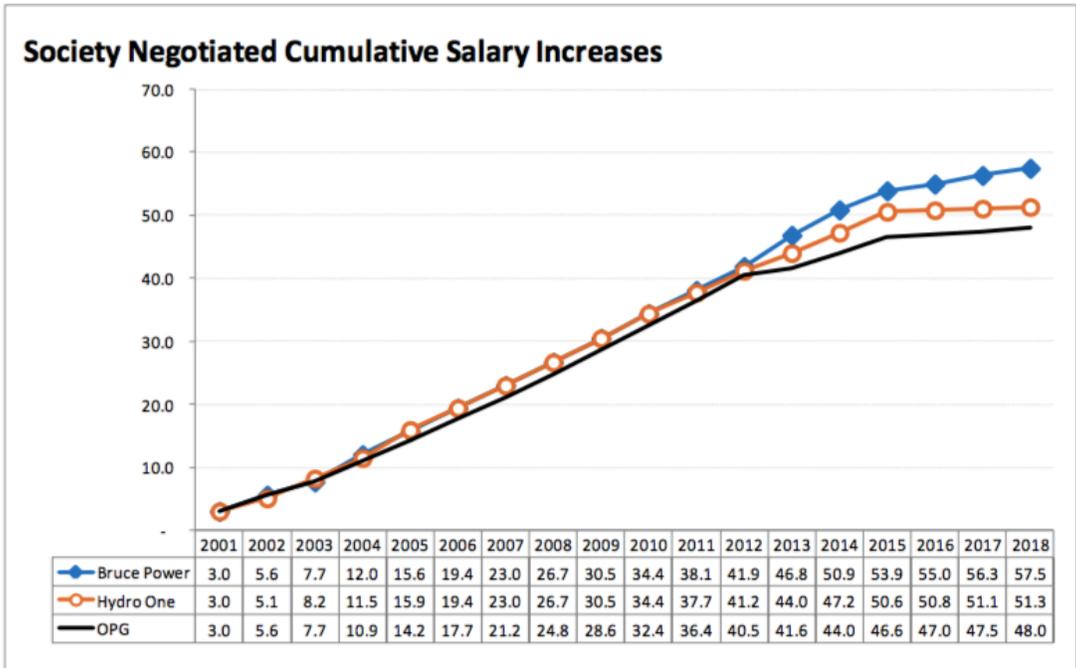
6.6.3 OPG Society Compensation – Ontario Comparable Bruce Power

The Society submits that OPG Society wages are competitively priced in Ontario when considered in the context of Bruce Power wages, the only comparable nuclear industry employer in Ontario.

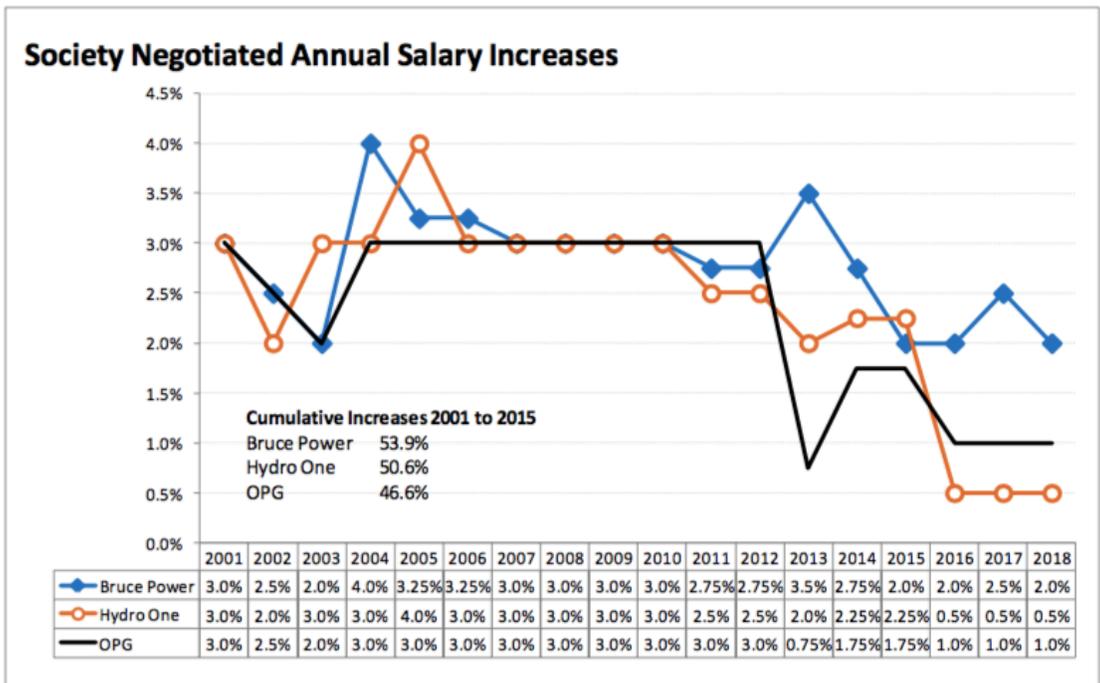
As summarized by OPG in their AIC [pp112], Bruce Power is the closest single comparator to OPG because it operates in the same market; competes for the same labour; has equivalent positions; uses similar technology, and; negotiates with the same unions.

Towers compared OPG's and Bruce Power wages (Ex. F4-3-1, Attachment 3 pp2) and demonstrated that Bruce Power's unionized wages are 2% higher for Society positions in 2015.

As compared to Bruce Power (and Hydro One), OPG's Society negotiated cumulative salary increases are lower from 2004 until 2018, and substantially so from 2013 until 2018 as shown below [ref. Exhibit F4, Tab 3, Schedule 1, page 10, Figure 8].



Further, as shown in the chart below [ref. Ex. F4-3-1, pp9, Figure 7], negotiated contract increases between 2016 and 2018 are 2.0%, 2.5% and 2% respectively for Bruce Power Society represented staff versus 1% in all three years for OPG Society staff. As a result, with an established 2% differences in wages in 2015 (Ex. F4-3-1, Attachment 3 pp2), Bruce Power Society wages will be more than 5.5% higher than OPG Society staff in 2018.



There are similar differences between OPG and Bruce Power PWU wage increases as there are between OPG and Bruce Power Society wage increases through this period. That is to say, Bruce Power PWU cumulative wage increases since 2001 have been materially larger than OPG PWU wage increases, and; the 2015 Bruce Power PWU wages are substantially higher than the 2015 OPG PWU wages. Consequently, in totality Bruce Power wage increases are cumulatively materially higher than those at OPG and Bruce Power actual 2015 wages are substantially higher than OPG wages. As per contract settlements which are in place, Bruce Power overall wages will be materially even higher in 2017/ 2018.

6.6.4 Comparison of Society to PWU Cumulative Wage Increases and Share Grants

Total cumulative wage increases for PWU bargaining unit members since 2001 are materially higher than that for Society bargaining unit members. Further, the PWU has been awarded larger share grants (2.75 per cent of salary as of April 1, 2015 for PWU and 2.0 per cent of salary as of January 1, 2016 for Society). The Society submits that as a result of these two factors, Society compensation is more competitively priced in the market than PWU compensation. Details follow.

For the period 2001 to 2017, the cumulative PWU increase is 51.7% [as per Ex. F4-3-1, pp. 9, Figure 6) whereas the cumulative Society increase is 47.5% [as per Ex. F4-3-1, pp. 10, Figure 8 as shown on the previous page). This represents a 9% difference between the PWU and The Society cumulative wage increases in the 2001 to 2017 period.

In addition, the higher economic increase obtained by the PWU also negatively impacts internal relativity between PWU and Society positions. As such, this makes Society positions less attractive to PWU employees who would fill many of the Society roles when they become vacant in the first line manager and field work positions.

There is also a substantial difference in the shares grants for PWU as compared to Society bargaining unit members. This will further increase the material cumulative difference between PWU and Society wage increases between 2001 and 2017 and beyond in future years. Specifically [as per Ex. F4-3-1, pp17], represented staff will be granted Hydro One Limited shares awards at the start of the third year of the current contract term (April 1, 2017 for PWU and January 1, 2018 for Society). The number of shares to be awarded annually will be based on a set percentage of salary at the beginning of the contract term (2.75 per cent of salary as of April 1, 2015 for PWU and 2.0 per cent of salary as of January 1, 2016 for Society).

6.6.5 Understaffing

The Society submits that due to understaffing in 2015 through to 2017, major work accomplishments, such as DRP, are at risk and are incurring materially increased cost due to the use of overtime and external contractors. Further, due to significant projected staff reductions between 2017 and 2021, The Society is concerned that

OPG's ability to safely and reliably operate its generating stations may also be at increased risk during the last few years of the test period. Consequently, The Society submits that the OEB in its Decision should direct OPG to undertake aggressive hiring measures and meet its planned 2017 regular staff levels as well as re-evaluate and materially increase its regular staff levels in the latter part of the test period. Details follow.

6.6.5.1 Significant Regular Staff Shortfalls in 2015-2017

As outlined by OPG in evidence [Ex. F4-3-1, pp5]:

By managing staffing reductions through retirements and putting in place vacancy controls, OPG was able to reduce its regular headcount by nearly 2,700 positions between 2011 and 2015 while avoiding costly severance packages and minimizing disruptions associated with the redeployment of staff. While Business Transformation has ended as a discrete initiative, efforts to continually improve and manage OPG's resources are embedded in day-to-day operations and business plans.

Further, OPG outlined that by year-end 2016, approximately 20 per cent of active employees will be eligible to retire with an undiscounted pension, with an additional 4 per cent becoming eligible to retire each year thereafter [Ex. F4-3-1, pp5].

As a consequence of all these factors, 300 Nuclear staff had retired in 2015, as compared to 248 retirements in 2014 and 269 in 2013 [Ex. L-6.6-19 SEP-013] which represented the highest level of Nuclear retirements in recent years. Over two thirds of the 2015 retirements were in critical operations, maintenance, engineering and technical roles and need to be replaced [AIC pp97].

OPG's 2016 nuclear facilities staffing levels were targeted to increase by over 600 FTEs largely due to the DRP and the workforce renewal required for PEO [Ex. F4-3-1, p. 6] as well as make up for the staff retirements in 2015. However, OPG was only able to hire less than 300 FTEs, or less than 50%, of this vital number of staff [Ex. K16.2, p. 16, line 9]. As per OPG, in this circumstance it relies on overtime and purchased services to supplement its workforce and complete priority work programs in a cost effective manner [AIC pp98]. However, as cost effective as this may be, using overtime and contract services is 25 to 30% more costly than having the required number of employees on staff to complete this work; and needed work also goes uncompleted.

The higher expense for use of purchased services in place of regular staff was confirmed by OPG's Ms. Carmichael in her testimony [Tr. V13, 27 March 2017 pp103, 104]:

"Well, I believe that when I was speaking to Mr. Millar earlier, when we were budgeting for '16, we were experiencing higher than regular attrition. We know that to backfill some of those jobs temporarily, that the cost to backfill them costs more. I think it's around 25 to 30 percent more on an hourly rate until you can get full-time people in place. We knew there was going to be an

issue of replacing or paying for purchased services to accommodate that kind of attrition levels. I mean, we were talking large attrition levels that we were unable to hire for due to a hiring lag. “

With regards to DRP, it is shown in J3.3 Attachment 1 that the gap between January 2017 month end staff are 186 or 17% lower than the RQE planned February month end levels.

So as its 2017 hiring falls behind target, OPG is again forced to use more costly overtime and purchased services to complete priority work programs.

As explained by OPG in an interrogatory response [Ex. L-6.6-2 14, AMPCO-129 a)]:
In recognition of the hiring activity required to support the Darlington Refurbishment Project and Pickering operations as described in Ex. F4-3-1, p. 6, a Resource Planning and Control Team was established to review and approve all staffing requests for the Nuclear business. This includes vacancies associated with regular, temporary and contract positions. This team, and the associated approvals, are closely integrated with OPG’s standard approval processes regarding vacancies.

It is clear that with the hiring shortfalls in 2015, 2016 and 2017 that OPG’s Resource Planning and Control Team is not up to the task of providing OPG’s nuclear program with the new hires which are required at great expense to the company.

Consequently, The Society submits that it is vital that the OEB should direct OPG to further modify its recruitment and hiring tactics and take all measures at its disposal to meet its submitted planned 2017 staff levels before year end. This is a key step required to meet and cost effectively achieve vital work program requirements.

6.6.5.2 Risks Associated With Staff Downsizing between 2017 and 2021

As shown in Ex. J14.6, excluding DRP hires, total Nuclear staff levels decline from 8064 FTEs in 2017 to 7471 FTEs in 2021. This is a significant reduction of 593 FTEs or over 7% through this period.

As a result of this material decline in staff levels, The Society is concerned that OPG’s ability to safely and reliably operate its generating stations may also be at increased risk during the last few years of the test period. Consequently, The Society submits that the OEB in its Decision should direct OPG to re-evaluate and materially increase its regular staff levels in the latter part of the test period.

6.6.6 Pension Costs

6.6.6.1 Earnings Basis for Pension

In its evidence [F4-3-1, pp. 16], OPG states that it negotiated changes to the basis for determining pension benefits. Previously, the calculation basis was an employee’s highest three consecutive years of pensionable pay. Beginning March 31, 2025 this has been increased to the highest five consecutive years for future service for both

PWU and Society represented employees. And this change applies to both current employees and new hires. As no mention is made regarding the basis for determining management staff pension benefits, one must conclude that it remains as a management employee's highest three consecutive years of pensionable pay.

The Society submits that the OEB should direct OPG in its Decision to change the basis of calculating pension benefits to the highest five consecutive years for future service for all OPG employees including management staff beginning March 31, 2025. As management staff have no bargaining rights this should be fairly straight forward and easy for OPG to put in place.

6.6.6.2 Employee Contributions Increases

As outlined in Ex. F4-3-1 [pp16,17 and Figure 10] through negotiations, OPG was able to increase employee pension contributions beginning April 1, 2015 for PWU employees, and January 1, 2016 for Society employees. Comparable changes were made to contributions for Management employees starting January 1, 2016. The table which follows [Ex. F4-3-1 pp17 Figure 10] provides an overview of the increase in employee contributions.

| Employee Pension Contributions | % of Pensionable Earnings Contributed by Employees (% below / above YMPE) | | | Contribution Ratio (Employee/Employer) |
|--------------------------------|---|----------|---------|--|
| | MG | PWU | Society | |
| 2014 | 7 / 7 | 5 / 7 | 7 / 7 | 24% / 76% |
| 2015 | 7 / 7 | 6 / 8 | 7 / 7 | |
| 2016 | 7.3 / 8.25 | 7 / 9 | 8 / 8 | |
| 2017 | 7.6 / 9.5 | 7.5 / 10 | 9 / 9 | 35% / 65% |

As the table shows, Society represented employees contribute 1.5% more up to YMPE than the other two employee groups. Once one takes into account the percentages below and above the YMPE as well as actual wages, Society employees make the highest pension contributions of the three employee groups.

The Society submits that the OEB should direct OPG in its Decision to increase the pension contributions made by Management employees to match that of Society employees from the beginning of 2017 as this lower cost to OPG will be to the advantage of ratepayers.

6.6.7 OEB Staff Compensation Recommendations

In the OEB staff submission in this proceeding, dated the 19th of May, 2017, staff have recommended an annual disallowance of \$50M specifically on account of excessive employee compensation which is in addition to the \$40 million reduction suggested by OEB staff for base OM&A [pp112-113].

The Society submits that this staff recommendation is unreasonable for a variety of reasons.

Firstly, as mentioned earlier in 6.6.2.1, Willis Towers Watson, the acknowledged compensation benchmarking experts who performed the submitted benchmarking study, clearly state that such results are considered to be at market if they are within +/- 10 per cent of the target market positioning [Exhibit F4-03-01 pp18]. However, OEB staff have chosen to ignore expert advice that results are to be considered to be within market if they fall within a band, and instead adhere to use of a simple point estimate in its recommended reduction calculations. This is unreasonable if the subject experts have a view that a +/- 10 per cent band defines target market positioning. If there is an inherent bias to ignore the benchmarking expert's view, then the use of a deadband around the median point estimate would appear to be a more appropriate approach. This deadband would account for any measurement errors and probabilistic uncertainty in the benchmarking study results. The Society submits that a deadband around the median point estimate of at least +/- 1 per cent would be appropriate.

Secondly, as outlined in section 6.6.2.3, the 2015 data used in the Willis Towers Watson 2016 benchmarking study does not include the impact of the 2016 to 2018 Society contract which has resulted in 1% per year increases in Society compensation, which are substantially below the inflation level of 2%. The PWU contract agreement also provides for a 1% increase in 2016 wages, which again is substantially below the inflation level of 2%. So if the Willis Towers Watson study was redone based upon 2016 data then OPG results would likely be 100 basis points closer to the market median point estimate. The Society submits that an adjustment to reflect this impact should be made to OEB staff's recommended compensation reduction. This approach is consistent with OEB staff's application of 2016 actuals and other more recent information in the considerations it has put forth in its submission.

Thirdly, as provided earlier in 6.6.1, OPG total compensation (including pension and benefits) per FTE increases less than 0.6% per year on average between 2015 and 2021, which is substantially less than expected inflation of about 2% per year through this period. The Society submits that the OEB staff recommended compensation reduction should be adjusted to take this into account. This would likely bring OPG 140 basis points per year closer cumulatively to the market median point estimate. Though unlikely, it is possible that inflation may be materially lower than 2% in any calendar year between 2017 and 2021. Further, it is possible that due to an economic disruption, industry wage increases could be lower in any given year(s). Consequently, in order to be conservative, The Society has assumed that these very low annual increases in compensation per FTE could result and will bring OPG between 70 to 140 basis points per year closer cumulatively to the market median point estimate.

Consequently, The Society submits that OEB staff's recommended annual disallowance of \$50M on account of what staff labels as excessive employee compensation should be adjusted for the above three factors as summarized in the table which follows. Note that The Society has assumed that the OEB staff proposed \$50M compensation reduction is proportional to OPG compensation being 5% above the market median point estimate in the 2016 WTW compensation benchmarking study.

Adjustments To Staff Recommended Compensation Reductions (M\$)

| | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|-------------|-------------|-------------|-------------|-------------|
| Staff Recommended Reduction | 50 | 50 | 50 | 50 | 50 |
| Less: | | | | | |
| 1. Deadband | 10 | 10 | 10 | 10 | 10 |
| 2. 2016 Below Inflation Increase | 10 | 10 | 10 | 10 | 10 |
| 3. Below Inflation Increases | 7 to 14 | 14 to 28 | 21 to 42 | 28 to 56 | 35 to 70 |
| Subtotal | 27 to 34 | 34 to 48 | 41 to 62 | 48 to 76 | 55 to 90 |
| Adjusted Staff Reduction | 23 to 16 | 16 to 2 | 9 to -12 | 2 to -26 | -5 to -40 |
| Society Recommended Reduction | 20 | 10 | 0 | 0 | 0 |

6.6.8 OEB Staff Compensation and Base/ Outage OM&A Recommendations

In their submission [pp113], OEB staff state that they are “recommending an annual disallowance of \$50 million specifically on account of excessive employee compensation **which is in addition to the \$40 million reduction suggested by OEB staff for base OM&A**”. Further, OEB staff have recommended that OPG Outage OM&A be reduced by roughly \$20M per year [pp3 Table 2]. In the case of both Base and Outage OM&A, a large component is OPG labour and the compensation thereof.

The Society submits that if the OEB determines in its Decision that OPG compensation be reduced in any year there will be a “double count “ of this reduction in Base and Outage OM&A. The Society submits that this “double count” in compensation reductions should be eliminated if conditions warrant in the OEB Decision in this proceeding.

Issue 9.7 Is the rate smoothing deferral account in respect of the nuclear facilities that OPG proposes to establish consistent with O. Reg. 53/05 and appropriate?

9.7.1 Rate smoothing and impact of Pickering staff reduction costs

On April 12, Mr. Dumka questioned OPG’s witnesses on the nature and expected timing of the estimated future staff reduction costs that contribute significantly to the peaks in revenue requirement in the 2024 and 2027 and dips in 2026 and 2028 [reference Exhibit L, Tab 11.6, Schedule 1 Staff 262 p. 2]. These are the peaks and dips that necessitate rate smoothing under Ontario Regulation 53/05.

OPG's Argument in Chief p. 94 notes the significance of the total downsizing expenditures that are expected to be incurred upon Pickering shutdown: *"In addition, a Pickering shut down in 2020 would cause OPG to incur about \$700M in incremental costs in 2021 related mainly to severance and associated costs (Ex. L-6.5-1 5 Staff-118(d), Table 2)."*

Mr. Dumka established that the forecast downsizing costs are primarily costs resulting from the application of rights under collective agreements and that no improved voluntary separation programs were being factored into the estimate at this time.

"Mr. DUMKA: So would it be right to assume that the downsizing costs include the standard sorts of things -- the contractual non-discretionary minimum costs due to the collective agreements, et cetera, and whatever statutory requirements. Would that be the basic high level costing assumption for the downsizing costs?"

"MR. MAUTI: Yes, it would. We would look at the current state of those collective agreements are in those terms and conditions, and then on a forecast basis knowing this is eight to ten years down the road, best estimates try to come up with that." (Tr. Vol 22, April 12, p. 17)

and:

"MR. DUMKA: Thank you. Does the estimate -- the two estimates you have, the point estimates, do they include a voluntary termination package or anything like that? Was that part of the assumptions that you've used in terms of your costing?"

"MR. MAUTI: I believe we used the terms of the existing collective agreements and not assumed any other negotiated process or negotiated availability to move people." (Tr. Vol 22, April 12, p. 18)

Mr. Mauti also agreed that the positions to be eliminated at Pickering are generally known now subject to some timing issues with respect to dewatering and defueling.

"Pickering is shutting down. So other than the staff needed to defuel and dewater and the number that are needed once it goes into that 30-year safe store period, in effect, everybody else working at Pickering, all those positions are eliminated." (Tr. Vol 22, April 12, p. 18-19)

In responding to a question of relevance, Mr. Dumka noted:

"If we look at various accounting regulations, you can recognize and set up -- recognize downsizing costs and set up a liability on your balance sheet and am (sic) amortize that, and that's another form of smoothing of costs." (Tr. Vol 22, April 12, p. 18)

Mr. Mauti responded to Mr. Dumka's assertion that it may be possible to record a liability prior to the end of life of Pickering and amortize the staff separation costs:

"A couple things you were asking about. The short answer is we can not prerecord assumed downsizing even should the CNSC allow to us extend to '22-'24. You have to meet specific accounting rules to do that, and it can't be on a modeling long-term sort of exercise to forecast what that might be. To actually book it for GAAP purposes, you have to have a formal program, a formal program announced, an uptake of that program and down to the point of either having names or very specific numbers." (Tr. Vol 22, April 12, p. 18)

The Society's position is that OPG should look carefully at the US accounting guidelines for recording liabilities in respect of exit or disposal cost obligations (FASB ASC 420). The need for a formal program and a known "uptake" is more relevant to a voluntary downsizing program.

The Society submits that there is a good possibility that a GAAP liability could and should be recorded at the time the CNSC approves a final out of service date for Pickering. At that point in time, the Society submits that US GAAP recognition criteria for involuntary termination costs would be met. Most importantly, the communication date criterion for recording a liability under GAAP may be met as soon as the final out of service date for Pickering is formalized and communicated to stakeholders. In addition, other criteria could be met at the same time, such as:

- a committed plan of termination would be known, at least for the majority of the staff positions;
- timing, nature and number of employee positions would be estimable;
- benefits to be provided under collective agreements would be estimable; and
- significant changes post recognition would be unlikely.

As employees would be required to continue to provide continued service to their actual termination date to benefit from involuntary termination benefits, any liability would be amortized over the period between the date of liability recognition and the termination date, thus providing a natural smoothing of costs under GAAP. The Society submits that this should be fully considered in the context of OEB staff's comments about smoothing found in its final argument (Staff Argument pp 179-180).

The Society submits that all opportunities and requirements to smooth under GAAP should be fully evaluated in detail now, and should be applied fully, before any artificial smoothing tools such as those available under Ontario Regulation 53/05 are used.

The Society is also supportive of OEB Staff's position "that the OEB hold off on making a decision on smoothing until the payment amount order stage. The OEB could direct OPG to provide an updated smoothing proposal based on the OEB's

findings and reflecting whatever smoothing principles the OEB determines are appropriate.” (Staff Argument pp 180)

Issue 11.1 Is OPG’s approach to incentive rate-setting for establishing the regulated hydroelectric payment amounts appropriate?

11.1.1 OEB staff Submission

OPG retained London Economics International (LEI) to perform a TFP (Total Factor Productivity) analysis [Exh A1-3-2 Attachment 1]. LEI calculated a historical TFP of -1.01% per annum; OPG proposed a base X-factor of 0% (where X is the expected productivity target) largely on the basis that the OEB has not accepted a negative X-factor in any previous IRM plans.

OEB staff in their submission [pp155,156] concluded that Pacific Economics Group’s (PEG) study [Exh M2] estimate of a +0.29% base X-factor from its study is more reasonable than LEI’s and based on a sounder methodology. Consequently, OEB staff have submitted that the base X-factor should be 0.29% for the term of this first ever hydroelectric IR period.

As a consequence of this and other factors (a recommended IPI of 1.7%, adjusted with a 12.5% weighting for GRC with 0% inflation resulting in an 2017 IPI of 1.5%), OEB staff have recommended incremental reductions to OPG’s proposed hydroelectric payment amounts and revenues of \$8.2M per year increasing cumulatively between 2017 and 2021 when the annual reduction reaches \$42.2M [OEB staff submission pp158, 159].

11.1.2 Consideration for the OEB in Taking Its Decision

The Society submits that the OEB must take a broader view in considering factors in order to take a decision regarding hydroelectric payment amounts and revenues. The Society submits that it is imprudent to reduce the requested hydroelectric rates as the hydro business currently is being operated at a bare minimum low cost and efficient manner. OPG’s hydroelectric fleet is in need of the requested rate levels in order to effectively manage provincial watersheds and ensure safety maintenance is properly undertaken on its dam inventory, many of which reside in Ontario citizen backyards. The OPG hydroelectric fleet is an average age of over eighty years old, widely distributed across a province 20% the size of the USA and operates in one of the world’s most ice prone countries which further complicates their operation, maintenance and administration. OPG is a safe operator of these more than 250 control and power dams that are spread across Ontario. The Society submits that any hydroelectric rate reduction would result in OPG being forced to make difficult risk based choices in order to manage the continued safe and cost effective operations of its hydroelectric fleet which may have undesirable ramifications and consequences for ratepayers.

As concluded by OEB staff in their submission on their consideration of the CRVA and the X-factor [pp162,163], “it is important to get a plan that is reasonable and realistic and ensures sharing of the plan, overall, between OPG and its shareholder and Ontario electricity consumers, and [OEB staff] is concerned about the possibility of unintended consequences of a subjective and likely arbitrary adjustment”. The Society submits that the OEB must take similar considerations into account in taking its decision regarding the setting of hydroelectric rates in the term of this first ever hydroelectric IR period in order eliminate the possibility of unintended consequences of a subjective and likely arbitrary adjustment.

Issue 12.1 Are the effective dates for new payment amounts and riders appropriate?

The Society submits that it agrees with and supports the submissions of both OPG and OEB staff that a January 1, 2017 effective date for payment amounts is reasonable. Specifically, as outlined by OEB staff in their submission [pp180], OPG’s application was filed shortly after audited results for 2015 were available, and OPG has met the deadlines established by the OEB in Procedural Order No. 1, issued on August 12, 2016.

ALL OF WHICH IS RESPECTFULLY SUBMITTED ON THIS 29th DAY OF MAY, 2017