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File 98198

VIA RESS FILING and EMAIL

Ms. Christine E. Long
Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor,
P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Long,

Re: EB-2020-0290 – OPG 2022-2026 Payment Amounts

Attached please find the Interrogatories of the Power Workers' Union in connection with the above-noted proceedings. An electronic copy has been filed through the Board's RESS filing system.

Yours very truly,
PALIARE ROLAND ROSENBERG ROTHSTEIN LLP

Richard P. Stephenson
RPS:pb

Doc 3716851 v1

Ontario Power Generation Inc.
2022-2026 Payment Amounts Application

Power Workers' Union Interrogatories

Issue 4.2. Are the proposed nuclear capital expenditures and/or financial commitments (excluding those for the Darlington Refurbishment Program) reasonable?

Interrogatory 1

Reference: Exhibit D2-1-1, Page 17 of 18, Lines 12-14:

> **KPMG Audit Results**
>
> The KPMG Audit included a single audit finding relative to one component of Schedule Management that represented a low to moderate-level risk. As of January 2020, the issue raised in the audit finding has been fully addressed by OPG.

Question

a) Please identify, describe, and provide supporting evidence regarding the actions that OPG has taken to address the risk the KPMG Audit identified with respect to Schedule Management.

Interrogatory 2

Reference: Exhibit D2-1-2, Page 4 of 28, Lines 15-21:

> Capital Projects being undertaken (or may potentially be undertaken) have higher average expenditures: In EB-2016-0152, the average project cost for active (ongoing or new) Tier 1 capital projects was $42.6M with the maximum being $129.5M for the Darlington Primary Heat Transport Pump Replacement/Overhaul. In this application, the average cost of the active Tier 1 projects (Ex. D2-1-3, Tables 1a, 1b, 1c and 1d) is $55.6M with a maximum of $278.8M for the Darlington 4kV Motor Refurbishment and Replacement project.

Question:

a) Please identify and describe the key drivers of the increase in the average project cost for Tier 1 capital projects being undertaken and planned to be undertaken compared to those in EB-2016-0152.

Interrogatory 3

Reference: Exhibit D2-1-3, Page 6 of 59, Lines 17-26

> Project #80123 Darlington Group II Pressure Transmitter Replacement. Hundreds of existing pressure transmitters are nearing their end of service life at Darlington Nuclear Generating Station. The transmitters are obsolete and few spares are available. The reliability of these electronic devices degrades with age. Failure rates of these components result in impairments in nuclear process and safety systems including the Moderator System, Emergency Coolant Injection, Negative Pressure Containment, Liquid Injection Shutdown System and Shutdown System 2. If failure occurs and spares are not readily available, OPG will need to take forced outages or an extended outage. The total project cost is forecast to be $47.7M. Planned final in-service is January 2028 with an in-service amount during the IR term of $29.0M.

Question

a) What is the design life of a pressure transmitter?
b) What is the average age of pressure transmitters at DNGS?
c) What is the average age of the hundreds of existing pressure transmitters that are nearing their end of service life at DNGS, described in the reference above?
d) What proportion of the existing pressure transmitters will reach their end of service life by the end of 2026?

Interrogatory 4

Reference: Exhibit D2-1-3, Page 7 of 59, Lines 17-25

> Project #82883 Darlington Class I Rectifier Replacement. The objective of this project is to replace 60 Class I rectifiers, which are obsolete and approaching end of service life. These rectifiers supply critical loads with Class I DC power from the Class II AC busses. Class I Power is very important for maintaining safety, as it provides an uninterruptible DC power to support proper operation of various safety systems. The reliability of these rectifiers is essential for reliable normal power supply to charge Class I battery banks, thereby ensuring uninterruptible power supply to nuclear system related loads and overall maintenance of system health. The total project cost is forecast to be $42.3M. Planned final in service is December 2032 with an in-service amount during the IR term of $17.0M.

Questions:

a) What is the design life of a Class I rectifier?
b) What is the average age of the 60 Class I rectifiers identified in the reference above?
c) What proportion of the existing Class I rectifiers will reach their end of service life by the end of 2026?

Interrogatory 5

Reference 1: Exhibit D2-1-3, Page 25-26 of 59

> Project # 31524 Darlington Roof Replacement Project. The current total project cost is forecast to be $116.9M, which is an increase of $78.6M from the Initiation Phase Class 5 estimated total project cost of $36.3M provided in EB-2016-0152.
>
> Planned final in-service is November 2027, with an in-service amount during the IR term of $66.2M. This project continues to be in the definition phase.
>
> This project is to replace flat roofs on the main powerhouse and other area buildings within the nuclear protected area. The roofs are approaching the end of their service life and need to be replaced to protect various nuclear and conventional systems in the station.

Reference 2: Exhibit D2-1-3, Attachment 1, Tab 5, 31524, Page 1 of 10

> Problem Statement/Business Need:
>
> Darlington protected area buildings' flat roofs have reached the end of their 25+ year life. These roofs need to be replaced to prevent leaks, which could lead to safety issues and damages to plant equipment.
>
> Each building roof will be placed in-service when complete. The last building roof is planned for completion by December 2024.

Reference 3: EB-2016-0152, Exhibit D2-1-3, Page 3 of 19, Lines 6-12:

> Project #31524 Darlington Station Roofs Replacement: This project is to replace flat roofs on the main powerhouse and other protected area buildings. The roofs are approaching the end of their service lives and need to be replaced. The total project cost is $38.3M with an initial definition phase release of $0.8M. Initial planned final in-service date is December 2018. However, the 2016 capital project portfolio budget is currently oversubscribed (i.e. the number of approved projects exceeds available funding). As a result, this project has been deferred and a revised in-service date has not yet been determined.

Reference 4: EB-2016-0152, Exhibit D2-1-3, Attachment 1, Tab 19 (#31524), Page 1 of 5

> The station’s existing roofs have reached the end of their 25-year design life. Currently there are 135+ Station Condition Record’s and 60+ work orders associated with roof leaks. There has also been an Aging Management Program Component Condition Assessment (NK38-REP-2000-10003) carried out for Roofing Construction for buildings inside the protected area which concluded that station roofing is in poor condition.
>
> The current condition of the station roofs exposes Darlington to nuclear and conventional safety risks. Most, if not all systems on both the nuclear and conventional side were designed with the assumption that system operations will take place below a leak-proof roof and no precipitation introduced into the systems environment. Introducing leaked water into any system puts the station in an unpredictable condition that is outside the design basis and therefore creates a potentially hazardous situation.

In addition, addressing the problem of the station's roof condition has been added to the Fukushima response actions and as such will receive special attention from the CNSC and the public. At present, there is an opportunity to avoid threats to the station's Power Reactor Operations License.

Reference 5: EB-2016-0152, Exhibit D2-1-3, Attachment 1, Tab 19 (#31524), Page 2 of 5

Base Case: Status Quo – No Project

Water leaks into the station are wide-spread and expected to increase due to continued degradation. If this project is not implemented, roof leaks will continue to occur, increase in overall cost and be disruptive to plant operations.

Questions:

a) Ref (1) indicates that the planned final in-service date for the project is November 2027 whereas Ref (2) states that the last building roof is planned for completion by December 2024. Please explain the discrepancy.
b) Please confirm that the initial planned in-service date for the project as stated in EB-2016-0152 (Ref (3)) was December 2018; and that the project was deferred due to lack of funding.
c) In the current application (Ref 2), OPG states that the Darlington protected area buildings' flat roofs have reached the end of their 25+ year life, which is the same as what OPG stated in EB-2016-0152 (Ref 4), i.e., the station's existing roofs reached the end of their 25-year design life.
    i. How old are the roofs?
    ii. How long have the roofs been in service beyond their design life?
d) In EB-2016-0152 (Ref 4), OPG stated that at the time there were 135+ Station Condition Record's and 60+ work orders associated with roof leaks. How many station condition records and work orders associated with roof leaks have arisen since EB-2016-0152?
e) Given the kind of safety risks described in EB-2016-0152 (see Ref 4, 5), why is OPG planning for an in-service date of November 2027 (or December 2024, depending on the response to Q#a)? What is OPG's plan to prevent or mitigate the safety risks until the completion of the project?
f) Please confirm if the deferral of the project has increased the cost of the project.

Issue 4.3. Are the proposed nuclear capital expenditures and/or financial commitments for the Darlington Refurbishment Program reasonable?

Interrogatory 6

Reference: Exhibit D2-2-1, Page 4 of 17, Lines 14-22

> OPG also is not seeking clearance of DRP-related amounts in the CRVA in this application. OPG proposes to defer the clearance of any such DRP-related amounts recorded in the CRVA (and inclusion of the variance against the EB-2016-0152 approved in-service additions in rate base) to a future application, which would allow an assessment of the recoverability of DRP-related variances, if any, in the context of the overall performance of the four-unit refurbishment, including the effectiveness of Lessons Learned and Strategic Improvements from the earlier unit refurbishments. OPG's proposed treatment of the variances is consistent with the DRP being a single mega-program as opposed to a collection of smaller projects.

Questions

a) When does the OPG plan to apply to clear the DRP-related amounts recorded in the CRVA?
b) The above reference states that "*a future application would allow an assessment of the recoverability of DRP-related variances, if any, in the context of the overall performance of the four-unit refurbishment.* Does that mean the application to clear the CRVA will wait until the end of the IR term?

Interrogatory 7

Reference: Exhibit D2-2-1 Page 6&7 of 17, Lines 16-22

> Chart 1 provides the planned start dates, end dates and durations per OPG's High Confidence Schedules for the refurbishment outages of Units 3, 1, and 4. As discussed further in exhibits D2-2-3, D2-2-5, D2-2-6, and D2-2-7, the schedules reflect the impact of OPG's response to the COVID-19 pandemic that resulted in a later start date of the refurbishment outage of Unit 3 in 2020 and correspondingly later start dates of the Units 1 and 4 refurbishment outages in subsequent years.

Chart 1: High Confidence Schedule Dates for Units 3, 1 and 4 Refurbishment Outages

	Start	End	Duration (Months)
Unit 3	3-Sep-2020	2-Jan-2024	40
Unit 1	15-Feb-2022	18-Apr-2025	38
Unit 4	15-Sep-2023	16-Oct-2026	37

Questions

a) Please explain how COVID 19 would impact the schedule for the start dates of Unit 1 and 4. Specifically, explain how the start dates of Units 1 and 4 are impacted by the start date of Unit 3.
b) Does the schedule for the remaining 3 units assume the application of the lessons learned from Unit 2 and the strategic improvements which OPG has introduced? If yes, to what extent will these lessons and improvements mitigate the delay that has been caused by COVID 19?

Interrogatory 8

Reference: Exhibit D2, Tab 2, Schedule 1, Page 8 of 17

Chart 2: Simplified Breakdown of Total Remaining Units Estimate

Program Component	Remaining Units Total Cost ($M)	Remaining Units Total Cost (%)
Major Work Bundles	4,389	66
OPG Functional Support	1,567	24
Contingency	647	10
Total Cost Estimate	**6,604**	**100**
Note: Interest and Escalation are included each of the line items above		

Question

a) Please breakdown contingency amounts by unit (2, 3, 1, 4)

Interrogatory 9

Reference: Exhibit D2, Tab 2, Schedule 2, Page 3 of 17

The Reference states that compared to the RQE, the U2EE was a more highly developed estimate in many ways:

Question

a) Please provide a chart similar to one provided below that compares the actual/forecast costs of refurbishment of each Unit by RQE and EE (Execution Estimate)

Unit	RQE ($M)	EE ($M)
U2		
U3		
U1		
U4		
Total		

Interrogatory 10

Reference: Exhibit D2-2-2, Attachment 2, Page 7 of 14 (Radiological safety)

Table 2 – Radiological Safety Performance Metrics						
	2017 Year End		2018 Year End		2019 End of Q3	
	Actual	Target	Actual	Target	Actual	Target
CRE (person-rem)[1]	1144	1383	784	770	434	413
Unplanned Exposures	0	0	0	0	0	0

Note 1 A lower number represents a lower amount of radiological exposure.

Questions

a) Please reproduce the chart including actual and forecast data for 2019 - 2026.
b) Please explain why actuals for 2018 and 2019 End of Q3 are higher than OPG's targets?
c) What steps is OPG taking to ensure it meets its targets going forward?

Interrogatory 11

Reference 1: Exhibit D2-2-3 -Lessons Learned

The reference describes how lessons learned from Unit 2 are incorporated in planning the refurbishment of the remaining three units.

Reference 2: Exhibit D2-2-11, Attachment 1, Page 43 of 82, Lines 3-5

> While many lessons learned were identified from the Unit 2 experience, OPG continuously seeks lessons learned from outside the organization as well (Bruce Power, Southern Company's Vogtle Units 3 & 4, other industry sources).

Question

a) Please identify and describe the most notable lessons learned from the refurbishment of Bruce Power, Southern Company's Vogtle Units 3 & 4, and other industry sources that are incorporated into the planning of Unit 3, 1, and 4.

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

Interrogatory 12

Reference: Exhibit A1, Tab 3, Schedule 2, Page 9 of 16

> Given that the Pickering station is planned to fully cease commercial operations in 2025, OPG proposes to calculate the stretch factor based on the two individual plants' performance, rather than the combined cost benchmarking performance of the two stations relative to multi-station nuclear operators applied in the EB-2016-0152 Decision. Accordingly, OPG proposes to base the stretch factor value on the relative cost performance of each of Pickering and Darlington to the peer group identified in the 2020 Nuclear Benchmarking Report. The individual stretch factor of each station would be weighted according to each station's average annual production over the benchmark period.
>
> As reflected in the 2020 Nuclear Benchmarking Report, Darlington's Normalized 3-Year TGC/MWh is at median (i.e., 0.3% stretch), and Pickering's performance is equivalent to the fourth quintile (i.e., 0.45% stretch).[19] OPG used a production-weighted average to determine a combined stretch factor value of 0.45%. OPG proposes that this weighted average stretch factor be used to set nuclear payment amounts until January 1, 2026, when Pickering will no longer be in service. Chart 3 shows the derivation of OPG's proposed stretch factor based on actual nuclear production at both stations over the 2017-2019 period, which are the years reflected in the 2020 Nuclear Benchmarking Report.

Questions

a) Why did OPG decide to weigh each station according to production and not the OM&A of each station?

b) The 2020 Nuclear Benchmarking Report includes data up to 2019, before Unit 2 was online. Why should a stretch factor for the post-refurbishment units be calculated based on the performance of the pre-refurbishment units?

c) Does the stretch factor apply to OM&A costs that are related to safety measures?

Interrogatory 13

Reference 1: Exhibit F2, Tab 1, Schedule 1, Attachment 2, Page 6 of 101
(Excerpt of Safety Metrics from Table 1)

Table 1: Plant Level Performance Summary

Metric	NPI Max	2019 Actuals			
		Best Quartile	Median	Pickering	Darlington
Safety					
Total Recordable Injury Frequency (#/200k hours worked) [3]		0.81	N/A	0.11	0.00
Rolling Average[2] Industrial Safety Accident Rate (#/200k hours worked)[1]	0.20	0.00	0.01	0.02	0.04
Rolling Average[2] Collective Radiation Exposure (Person-rem per unit)[1]	80.00	38.54	70.32	70.32	83.23
Airborne Tritium Emissions (Curies) per Unit [3]		982	2,772	2,517	1,213
Fuel Reliability (microcuries per gram)[1]	0.000500	0.000001	0.000007	0.000187	0.000295
2-Year Reactor Trip Rate (# per 7,000 hours)[1]	0.50	0.00	0.00	0.24	0.00
3-Year Auxiliary Feedwater System Unavailability (#)[1]	0.0200	0.0000	0.0000	0.0039	0.0000
3-Year Emergency AC Power Unavailability (#)[1]	0.0250	0.0008	0.0016	0.0003	0.0026
3-Year High Pressure Safety Injection Unavailability (#)[1]	0.0200	0.000000	0.000000	0.00013	0.00000

4th Quartile Performance | 3rd Quartile Performance | 2nd Quartile Performance | Maximum NPI points achieved or Best Quartile

Reference 2: Exhibit F2, Tab 1, Schedule 1, Attachment 2, Page 6 of 101 (excerpt)

> The Total Recordable Injury Frequency (TRIF) was calculated using data from the Canadian Electricity Association (CEA). Median information and individual company information are not available for this metric. Therefore, only trend and best quartile information have been presented. The peer group for this metric is limited to Group I members of CEA (Section 7.0, Table 10).

Questions

a) Why is the median not available for Total Recordable Injury Frequency?

b) The majority of Pickering and Darlington performance metrics are shaded green reflecting "Maximum NPI points achieved or Best Quartile". However, performance for many of these metrics is below median. Does OPG target to be at least median for these metrics or does it view its performance as adequate? If the latter, please explain.

c) Please explain why Pickering and Darlington are worse than median for the Rolling Average Industrial Safety Accident Rate metric.

Interrogatory 14

Reference 1: Exhibit F2, Tab 1, Schedule 1, Attachment 2, Page 6 of 101
(Excerpt of Reliability Metrics from Table 1)

Table 1: Plant Level Performance Summary

Metric	NPI Max	2019 Actuals			
		Best Quartile	Median	Pickering	Darlington
Reliability					
Rolling Average[2] WANO NPI (Index)[1]		92.68	87.64	82.50	88.90
Rolling Average[2] Forced Loss Rate (%)[1]	1.00	1.08	2.43	3.39	2.56
Rolling Average[2] Unit Capability Factor (%)[1]	92.00	87.06	86.14	83.31	87.06
Rolling Average[2] Chemistry Performance Indicator (Index)[1]	1.01	1.00	1.00	1.02	1.03
1-Year Online Deficient Maintenance Backlog (work orders per unit)[1]		30	39	114	110
1-Year Online Deficient Critical Backlog (work orders per unit) [1]		0	0	5	3
1-Year Online Corrective Maintenance Backlog (work orders per unit) [1]		2	3	9	4
1-Year Online Corrective Critical Backlog (work orders per unit) [1]		0	0	1	0

4th Quartile Performance	3rd Quartile Performance	2nd Quartile Performance	Maximum NPI points achieved or Best Quartile

Reference 2: Exhibit F2, Tab 1, Schedule 1, Attachment 6, Page 3 of 42

- Our current analysis shows that OPG, as of August 2019, is 239 FTEs (4.5%) *below* the total North America nuclear operator benchmark of 5,255 FTEs. The North American benchmarks have increased slightly since 2014 due to aging plants and a less-experienced workforce which required additional staff.

Question

a) If Assuming OPG's FTEs were at benchmark, what impact would that have on Pickering and Darlington's likelihood of achieving Best Quartile or 2nd Quartile Performance in the above metrics?

Issue 6.3. 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) appropriate?

Interrogatory 15

Reference: Exhibit F4, Tab 3, Schedule 1, Attachment 1 – 2K Table

Questions

a) Please provide the 2K table in excel format.

b) Please split the "Term/ETE" group into separate "Term" and "ETE" lines for each

c) Please provide the following additional details:

   i. Salary & Incentive Pay per FTE

   ii. Total Compensation per FTE

Interrogatory 16

Reference: Exhibit F4, Tab 3, Schedule 1, Page 1 of 31

> Compensation costs for Nuclear for the period 2022-2026 are $7,687M and equivalent to approximately 46% of OPG's forecast 2022-2026 Nuclear revenue requirement, reflecting the significant role OPG employees play in producing electricity for Ontario.

Questions

a) Please provide compensation costs as a share of OPG's Nuclear revenue requirement for each year from 2022 to 2026. Please explain how OPG calculates this figure, considering a share of compensation costs are capitalized.

b) Please provide compensation within OM&A as a share of total OM&A.

Interrogatory 17

References: Exhibit I1, Tab 1, Schedule 1, Table 1 (OM&A)
Exhibit F4, Tab 3, Schedule 1, Attachment 1 (Total Compensation)

($M)	**2022**	**2023**	**2024**	**2025**	**2026**
OM&A	$2,341.2	$2,382.0	$2,207.1	$1,869.0	$1,083.3
Total Compensation	$1,708.5	$1,705.0	$1,665.8	$1,448.3	$1,159.6
Total Comp. / OM&A	*73.0%*	*71.6%*	*75.5%*	*77.5%*	*107.0%*

Questions

a) Please provide the share of total compensation that is capitalized.

b) Why does compensation as a share of OM&A increase materially in 2026?

Interrogatory 18

Reference: Exhibit F4, Tab 3, Schedule 1, Pages 19-20 of 31

> In exchange for the pension reforms negotiation in 2015, PWU and Society represented employees who were contributing to the pension plan on April 1, 2015 (PWU) and January 1, 27 2016 (Society) and had less than years of pensionable service as of those dates were granted Hydro One Limited shares awards at the start of the third year of the applicable contract term (April 1, 2017 for PWU and January 1, 2018 for Society). Eligible employees continue to receive shares annually for up to 15 years subject to certain conditions. Based on projections, the number of employees entitled to shares, as compared to the number at the commencement of the program, will decrease by approximately 30% in 2026. Over the IR term, the cost associated with the share performance plan is less than the cost savings from the pension reforms that apply to all employees (existing and new), and the pension savings will continue to grow over time.

Question

a) Please provide the cost savings from the pension reforms, with calculations, separately for a) Employee Contribution Increases, b) Earnings Basis for Pension, and c) Retirement Eligibility for an Undiscounted Pension.

Interrogatory 19

Reference 1: Exhibit F2, Tab 1, Schedule 1, Attachment 6, Page 3 of 42

> - Our current analysis shows that OPG, as of August 2019, is 239 FTEs (4.5%) *below* the total North America nuclear operator benchmark of 5,255 FTEs. The North American benchmarks have increased slightly since 2014 due to aging plants and a less-experienced workforce which required additional staff.

Reference 2: Exhibit F4, Tab 3, Schedule 1, Page 23 of 31

> Benchmarking conducted by WTW indicates that OPG's Total Direct Compensation and Total Remuneration are at market: 5.2% and 7.7% above the midpoint of market peers, respectively.

Questions

a) Please discuss OPG's benchmark total compensation relative to its peers, with consideration to both the Willis Towers Watson compensation and Goodnight Consulting workforce benchmarking studies.

b) Please discuss OPG's required qualifications for employees in its workforce and the relationship between OPG employee qualifications and its total workforce.

c) If North American benchmarks have increased due to aging plants, would it be reasonable for nuclear generating stations at the end of life (ie. Pickering) to require relatively higher workforces than the benchmark? If not, why not?

Interrogatory 20

Reference 1: Exhibit F2, Tab 1, Schedule 1, Attachment 6, Page 3 of 42

> - Our current analysis shows that OPG, as of August 2019, is 239 FTEs (4.5%) *below* the total North America nuclear operator benchmark of 5,255 FTEs. The North American benchmarks have increased slightly since 2014 due to aging plants and a less-experienced workforce which required additional staff.

Reference 2: EB-2016-0152, Exhibit L, Tab 6.6, Schedule 1, Staff-144, Attachment 1, Page 14 (PWU Collective Agreement)

> **8.1 Introduction**
>
> In order for the Company to be competitive it is essential that work efficiency be maximized. The Company must change its current approach to performing work while continuing to improve safety and quality standards. In addition, the Company must invest in employee

development. These changes can be achieved through the introduction of skill broadening programs and a simplified wage structure.

The wage structure consists of three (3) salary bands.

All employees on the wage structure will be expected to perform any assigned work (as described in 8.2 below) within the same band or a lower band without additional compensation.

8.2 Skill Broadening

Skill broadening is the development and use of employees to perform work outside of their traditional roles. Skill broadening is achieved by providing employees with the training and opportunities to perform additional work safely. The intent of skill broadening is to enrich job content and increase work efficiency by:

a) Removing the traditional boundaries in working roles; and

b) Developing employee capabilities to perform work beyond their traditional roles.

Skill Broadening can be achieved by taking advantage of existing and future technology and by development of employees who are highly trained with multiple capabilities and responsibilities.

Skill Broadening will include training and instruction of other employees. It also will include new responsibilities required to maximize the commercial performance of the Company while ensuring compliance with market rules and sound health and safety and environmental practices.

Skill broadening and the consolidation of occupation codes into new job groupings will not eliminate the distinctions between positions. For example, Mechanical Maintainers will not become Control Technicians. However, there may be an overlap of duties between job groupings. The intent of skill broadening is not to fully qualify an employee in all other jobs but rather to maximize the capabilities of employees.

Employees can be required to work outside their job grouping with employees in other job groupings to jointly complete work assignments. All work assignments are dependent on employees having appropriate skill, knowledge and training.

Employees working independently will be expected, once trained, to perform basic skills of other job groupings at the same or lower band. There may be limited circumstances where employees receive specific training in another job grouping to fully complete a specialized task.

In addition to the responsibilities listed in their Job Documents, the work of employees will be expected to include additional tasks. This is further described in the Article 8 Intent Document, which forms part of this agreement.

Question

a) What impact does the Skill Broadening aspect of the PWU's Collective Agreement have on the number of FTEs OPG needs to operate its nuclear facilities?

Interrogatory 21

Reference 1: Exhibit F4, Tab 3, Schedule 1, Attachment 2, Page 6 of 35

- Based on job information and profiles from OPG, each OPG role has been matched to a benchmark with a similar level of functional specialty and accountability within Willis Towers Watson's 2019 Compensation Databases where a suitable match was available

Reference 2: EB-2016-0152, Exhibit L, Tab 6.6, Schedule 1, Staff-144, Attachment 1, Page 14 (PWU Collective Agreement)

8.1 Introduction

In order for the Company to be competitive it is essential that work efficiency be maximized. The Company must change its current approach to performing work while continuing to improve safety and quality standards. In addition, the Company must invest in employee development. These changes can be achieved through the introduction of skill broadening programs and a simplified wage structure.

The wage structure consists of three (3) salary bands.

All employees on the wage structure will be expected to perform any assigned work (as described in 8.2 below) within the same band or a lower band without additional compensation.

8.2 Skill Broadening

Skill broadening is the development and use of employees to perform work outside of their traditional roles. Skill broadening is achieved by providing employees with the training and opportunities to perform additional work safely. The intent of skill broadening is to enrich job content and increase work efficiency by:

a) Removing the traditional boundaries in working roles; and

b) Developing employee capabilities to perform work beyond their traditional roles.

Skill Broadening can be achieved by taking advantage of existing and future technology and by development of employees who are highly trained with multiple capabilities and responsibilities.

Skill Broadening will include training and instruction of other employees. It also will include new responsibilities required to maximize the commercial performance of the Company while ensuring compliance with market rules and sound health and safety and environmental practices.

Skill broadening and the consolidation of occupation codes into new job groupings will not eliminate the distinctions between positions. For example, Mechanical Maintainers will not become Control Technicians. However, there may be an overlap of duties between job groupings. The intent of skill broadening is not to fully qualify an employee in all other jobs but rather to maximize the capabilities of employees.

Employees can be required to work outside their job grouping with employees in other job groupings to jointly complete work assignments. All work assignments are dependent on employees having appropriate skill, knowledge and training.

Employees working independently will be expected, once trained, to perform basic skills of other job groupings at the same or lower band. There may be limited circumstances where employees receive specific training in another job grouping to fully complete a specialized task.

In addition to the responsibilities listed in their Job Documents, the work of employees will be expected to include additional tasks. This is further described in the Article 8 Intent Document, which forms part of this agreement.

Questions

a) For the purpose of matching each OPG role to a benchmark, did the Willis Towers Watson study take into account any additional duties and responsibilities assigned to the applicable OPG role pursuant to section 8.2 of the PWU collective agreement?

   i. If such additional work is considered, please explain how additional work for each applicable role is identified and considered.

b) Does Willis Towers Watson consider the qualifications or certifications of employees of OPG and comparator organizations?

c) Do the comparator organizations within Willis Towers Watson's study have employee skill broadening requirements comparable to the above-quoted provisions of the PWU collective agreement?

Interrogatory 22

Reference 1: Exhibit F2, Tab 1, Schedule 1, Page 12 of 29

The Collective Radiation Exposure improved for Pickering resulting in maximum NPI points, and improved for Darlington while remaining in the third quartile. Positive gains were seen from site innovations such as leveraging technology to avert dose using robotic equipment and remote monitoring of systems, and the early completion of planned outages.

Reference 2: Exhibit F2, Tab 1, Schedule 1, Attachment 6, Page 11 of 42

Process Area Summary	Regular	Term	Total Regular HC	Non-Regular	Augmented Staff	Oncore Hourly	Other Purchased Services	Total Contractor FTEs	Total OPG FTEs	2019 Goodnight Benchmark	Variance	%
Administrative Services	98		98	7				7	105	129	(24)	-19%
Configuration Management	182		182	2	4	4	13	23	205	337	(132)	-39%
Equipment Reliability	398	2	400	28	7		26	61	461	590	(129)	-22%
Loss Prevention	139		139	2	5	16	14	37	176	201	(25)	-12%
Operate The Plant	854	156	1,010	8	3		10	21	1,031	1,073	(42)	-4%
Personnel Services	580	27	607	40	24	11	3	78	685	600	85	14%
Plant Maintenance	928	149	1,077	260		114	19	393	1,470	1,225	245	20%
Radiation Protection	122	4	126	12			20	32	158	287	(129)	-45%
Security*	31		31	2	1		3	6	37	97	(60)	-62%
Supply Chain	177		177	6	1	1	1	9	186	235	(49)	-21%
Work Management	346	7	353	16	11	9	3	39	392	417	(25)	-6%
Below the Line	93	11	104	1	5			6	110	64	46	72%
Benchmarked Total	**3,948**	**356**	**4,304**	**384**	**61**	**155**	**112**	**712**	**5,016**	**5,255**	**(239)**	**-4.5%**

Questions

a) Does OPG accept that the 2019 Goodnight Benchmarks are appropriate benchmarks for its workplace? If not, why not?

b) How can OPG operate its nuclear facilities safely if its radiation protection workforce is understaffed by 45%?

c) Is Collective Radiation Exposure (as described in the reference above) the sole metric used by OPG to measure the adequacy of its radiation protection, or are there any others?

d) How many radiation protection FTEs are there in 2021 compared to 2019?

e) How can OPG operate its nuclear facilities safely if its security workforce is understaffed by 62%?

f) How many security FTEs are there in 2021 compared to 2019?

g) How can OPG operate its nuclear facilities safely if its equipment reliability workforce is understaffed by 22%?

h) How many equipment reliability FTEs are there in 2021 compared to 2019?

i) Does OPG's workforce plan address these FTE deficiencies at Pickering in the near term and Darlington in the long term?

Interrogatory 23

Reference 1: Exhibit F4, Tab 3, Schedule 1, Page 14 of 31

> OPG's recently negotiated and awarded salary increases are generally at or below comparator salary increase ranges. In particular, with respect to the PWU, the negotiated yearly salary increases for the 2018-2021 collective agreement period are 1.8% (2018), 2% (2019), 2% (2020), and 0.8% (2021). As noted earlier, with respect to the Society, there have been two recent collective agreements awarded through interest arbitration, the first in effect for 2019 and the second in effect for 2020-2021. The Society yearly salary increases for the 2019-2021 period are 2% (January 1, 2019 and January 1, 2021) and 0.8% (November 1, 2021).
>
> The introduction of Bill 124: *Protecting a Sustainable Public Sector for Future Generations Act, 2019* ("Bill 124"), which came into force on November 8, 2019, will impact future wage negotiations with bargaining units at OPG. Bill 124 sets limits on compensation increases for unionized and non-unionized employees in the Ontario public sector, which includes OPG. Bill 124 limits the maximum annual increase in both wages and total compensation to 1% for a three year period, referred to as the "moderation period". The moderation period is tied to the expiration dates of the collective agreements and, accordingly, these wage restrictions will be in effect for any PWU collective agreement renewal period within April 1, 2021 to March 31, 2024. Similarly, the wage restrictions will apply to any Society collective agreement renewal period within January 1, 2022 and December 31, 2024.

Reference 2: EB-2016-0152, Exhibit F4-3-1, Page 8 of 23:

> OPG, with the direct involvement and support of the Government, negotiated agreements with both the PWU and Society in 2015 that will keep wage escalation below inflation. Both agreements provide for a one per cent escalation increase each year and cover a three year period, running from April 1, 2015 to March 31, 2017 for the PWU and from January 1, 2016 to December 31, 2018 for the Society.

Questions

a) Please quantify the impact on the test period revenue requirement had wage escalation been set at inflation beginning in 2021.

b) Please quantify the impact on the test period revenue requirement had wages escalated at inflation since 2016.

Interrogatory 24

Reference: Exhibit F4, Tab 3, Schedule 1, Page 18 of 31

Figure 9 – Overview of Employee Contributions

Employee Pension Contributions*	% of Pensionable Earnings Contributed by Employees (% below / above YMPE / above Earnings Limit)			Contribution Ratio (Employee/Employer)
	MG	PWU	Society	
2014	7 / 7	5 / 7	7	24% / 76%
2015	7 / 7	6 / 8	7	
2016	7.3 / 8.25 / 2	7 / 9	8	29% / 71%
2017	7.6 / 9.5 / 4.5	7.5 / 10	9	32% / 68%
2018	7.6 / 9.5 / 4.5	7.5 / 10	9	33% / 67%
2019	7.6 / 9.5 / 4.5	7.5 / 10	9	34% / 66%
2020	7.6 / 9.5 / 4.5	7.5 / 10	9	32% / 68%

*Employee pension contributions are tiered for PWU and Management employees based on Canada Pension Plan Yearly Maximum Pensionable Earnings (YMPE), with Management group employees having an additional tier at the prescribed earnings limit as defined in the OPG Pension Plan. Society employees are not subject to tiered contributions.

Questions

a) Please quantify the impact on the 2022 revenue requirement had the ratio remained at 24%/76% instead of 32%/68%.

b) When measured in dollar terms, what is the percentage change in employee pension contributions on an annual basis from 2017 through 2020, and over the period as a whole?

Interrogatory 25

Reference: Exhibit F4, Tab 3, Schedule 1, Page 29 of 31

> **7.0 WAGES AND THE GENERATION OF ELECTRICITY IN ONTARIO**
>
> Bruce Power is OPG's closest competitor for attracting and retaining talent. Both Bruce Power and OPG generate electricity in the same energy market, operate similar technology, have a workforce comprising similar roles, and have staff represented by the same unions.
>
> WTW undertook a comparison of OPG's wages to those provided by Bruce Power. The results of this comparison are captured in Attachment 3 and a summary is provided below in Figure 13. Bruce Power's unionized wages are 19% higher for PWU positions and 6% higher for Society positions.

Question

a) Please quantify the impact on the test period revenue requirement had OPG wages been equivalent to Bruce Power wages.

Interrogatory 26

Reference: Exhibit F4, Tab 3, Schedule 1, Page 20 of 31

> Health Benefit coverage
>
> OPG negotiated an overall improvement in 2018 to the health benefit plan, with both the PWU and the Society that are expected to reduce benefit costs. Changes with the PWU were effective April 1, 2018 and for the Society they were effective January 1, 2019.
>
> a) PWU and Society Benefit Changes
>
> OPG successfully negotiated with both the PWU and Society for limitations in two benefits areas to help control future costs. The changes implement a cap on the frequency of dispensing fees for maintenance level drugs and mandate use of the lowest price equivalent drug (generic or brand name). These changes are significant because prescription drugs account for approximately 60% of OPG's health spending. In exchange, OPG provided for modest benefit improvements to both the PWU and Society.

Questions

a) Please provide estimated cost savings from 2018 to 2021 resulting from changes to health benefit coverage.

b) Please provide estimated cost savings in the 2022 to 2026 period resulting from these changes.

Interrogatory 27

Reference: Exhibit F2, Tab 1, Schedule 1, Attachment 6, Page 23 of 42

> Operations/Operations –Pipeline –Ops Pipeline staffing above the benchmark (+37) indicates that OPG is aware of low on-shift Operations staffing (-163) and is executing a plan to help close the gap. However, even if most of the Ops Pipeline personnel successfully migrate to on-shift Ops, the gap will still be >100.

Question

a) Please describe the plan to close the staffing gap and the status of that plan.

Interrogatory 28

Reference 1: Exhibit F2, Tab 1, Schedule 1, Attachment 6, Page 23 of 42

> Operations Support (Pickering) –Additional operations support staff are required for Units 5-8 due to specific licensing requirements.

Reference 2: Exhibit F2, Tab 1, Schedule 1, Attachment 6, Page 25 of 42

> Maintenance –Mechanical, Electrical/I&C, and Support -Additional Pickering staff are currently required to support life extension of the remaining operating units. There has also been additional focus on tritium management since the 2011 staffing benchmarking study.

Reference 3: Exhibit F2, Tab 1, Schedule 1, Attachment 6, Page 26 of 42

> Engineering –Plant (Pickering) -Additional Pickering staff are currently required to support life extension of the remaining operating units. These conditions are exacerbated by below benchmark staffing. Benchmark plants have slightly higher than average Engineering – Plant staffing as an approach to provide a "first line of defense" for Operations and Maintenance.

Questions

a) How many additional operations support FTEs are required due to specific licensing requirements related to Units 5-8?

b) How many additional maintenance FTEs are required to support life extension?

c) How many additional engineering FTEs are required to support life extension at the remaining operating units?

Interrogatory 29

Reference 1: Exhibit F4, Tab 1, Schedule 1, Page 5 of 31

> **Demographics:** OPG has a mature and experienced workforce. By year-end 2021, approximately 21% of active regular employees will be eligible to retire with an undiscounted pension, with an additional 14% becoming eligible to retire between 2022 and 2026.

Reference 2: Exhibit F4, Tab 1, Schedule 1, Page 19 of 31

> c) Retirement Eligibility for an Undiscounted Pension
>
> In 2015, OPG successfully negotiated a change in the retirement eligibility formula. Currently, PWU and Society employees can retire with an undiscounted pension when their age plus service equals 82; this is referred to as the Rule of 82. For service after March 31, 2025, the eligibility for an undiscounted pension will be changed to the Rule of 85. The retirement eligibility formula of age plus service was also changed for management employees from 84 to 90 years, effective July 1, 2014 for new management employees, and effective for future service beginning January 1, 2025 for existing employees.

Questions

a) Please provide the number of actual retirements from 2016 to 2020 and number of employees eligible to retire in each year from 2017 to 2026.

b) For 2025 and 2026, please provide the number of employees that would have been eligible to retire if the Rule 82 had not been changed to Rule 85.

Interrogatory 30

Reference: Exhibit F4, Tab 3, Schedule 1, Attachment 2, Page 14 of 35

> **Total Remuneration Analysis Results Including Hydro One Share Grants**
>
> - Annual share grants similar to OPG's Hydro One share grant are relatively uncommon in the market, but have been captured in TDC where provided in the market. Other one time lump-sum awards (whether in cash or shares) are not captured in WTW's compensation surveys which could potentially understate the market results

Questions

a) Is the value of share grants considered in this table the full value of the share grants or is the value pro-rated for the percentage of employees that receive share grants?

b) Does the value reflect the share price at the time OPG acquired the shares?

Interrogatory 31

Reference: Exhibit F4, Tab 3, Schedule 1, Attachment 2, Page 14 of 35

> In exchange for the pension reforms negotiation in 2015, PWU and Society represented employees who were contributing to the pension plan on April 1, 2015 (PWU) and January 1, 2016 (Society) and had less than 35 years of pensionable service as of those dates were granted Hydro One Limited shares awards at the start of the third year of the applicable contract term (April 1, 2017 for PWU and January 1, 2018 for Society). Eligible employees continue to receive shares annually for up to 15 years subject to certain conditions. Based on projections, the number of employees entitled to shares, as compared to the number at the commencement of the program, will decrease by approximately 30% in 2026. Over the IR term, the cost associated with the share performance plan is less than the cost savings from the pension reforms that apply to all employees (existing and new), and the pension savings will continue to grow over time.[16]
>
> [16] The cost impact of the Hydro One share performance plan is included in total compensation cost presented in Attachment 1.

Questions

a) Please provide the number and percentage of PWU and Society employees that receive Hydro One share grants from 2017 actuals to the 2026 forecast.

b) Please confirm the cost impact included in the 2K table reflects the price OPG paid for the shares.

Interrogatory 32

Reference: Exhibit F4, Tab 3, Schedule 1, Page 1 of 31

> The introduction of Bill 124: *Protecting a Sustainable Public Sector for Future Generations Act, 2019* ("Bill 124"), which came into force on November 8, 2019, will impact future wage negotiations with bargaining units at OPG. Bill 124 sets limits on compensation increases for unionized and non-unionized employees in the Ontario public sector, which includes OPG. Bill 124 limits the maximum annual increase in both wages and total compensation to 1% for a three year period, referred to as the "moderation period". The moderation period is tied to the expiration dates of the collective agreements and, accordingly, these wage restrictions will be in effect for any PWU collective agreement renewal period within April 1, 2021 to March 31, 2024. Similarly, the wage restrictions will apply to any Society collective agreement renewal period within January 1, 2022 and December 31, 2024.

Questions

Since 2018, the collective agreements entered into between OPG and the PWU and/or the Society have been governed by specific statutory provisions (beyond the general provisions of the *Labour Relations Act*) which impose limits on the content of those agreements.

a) Identify and provide copies of the statutory provisions in question;

b) Describe how those statutory provisions have impacted the compensation and benefits which are payable pursuant to those agreements;

c) Describe what future collective agreements will be subject to these restrictions.