Intention of proposal

The OPTrust proposal is intended to accomplish several goals by providing a pension plan to employees in the broader public sector.

First and foremost, by pooling risk and creating greater efficiency amongst a larger and growing set of active employees, the volatility of the funded status of the OPSEU Pension Plan can be improved.

The second goal is the provision of greater retirement income coverage for Ontarians. OPTrust Select will provide an Ontarian retiring with earnings of $50,000 with an income replacement ratio of approximately 60% after 25 years of service, when CPP and OAS are factored in. This represents a greater income replacement ratio than most defined contribution plans and group RRSPs. Higher levels of retirement income are beneficial for the long term financial welfare of both the affected individuals and the economy as a whole because retirees will contribute more to the economy and place less of a drain on tax-payer dollars for government-assisted programs such as the Guaranteed Income Supplement (GIS) and OAS.

Third, the OPTrust plan expansion proposal would complement the expanded CPP. It is a response to the desire for employers to offer better retirement plans to their employees. OPTrust Select would serve as a voluntary option for those employers and employees who would seek to afford a greater level of income replacement in retirement.

Finally, the proposal is aligned with the intention to encourage consolidation and growth within public sector pension plans.

Benefits of proposal

The primary benefit to employees is the provision of a pension plan that will provide greater income replacement in retirement. As a defined benefit plan, demographic and economic risk of many members is pooled into a single large group. As a pension plan, there are no additional fees charged to the employee for the pension management of their assets.

For the employer, the burden of administering a pension plan or group RRSP is transferred to OPTrust. This recognizes that the core competency of the broader public sector employer is not pension administration or the managing of an investment portfolio. If the employer has an existing pension plan, any solvency payments they currently provide would be eliminated, and could be redirected to front line services. Furthermore, any administration fees they pay to their service provider would also be eliminated.

Considerations of proposal

Under the Sponsorship agreement for OPTrust, only the two Sponsors can amend contributions and benefits. As such, employees and employers need to understand that upon joining OPTrust, they will not be able to unilaterally amend the benefits and contributions levels. From a legal perspective, they will be required to delegate this function to the Sponsors.

As OPTrust is a jointly-sponsored trust, our two Sponsors appoint the Board of Trustees on behalf of the membership. OPTrust understands this governance arrangement will not change, and an incoming employer and employee group would need to understand this structure. However, since OPTrust employers also include other employers like the Liquor Control Board of Ontario, the Alcohol and Gaming Commission of Ontario and the Ontario Teachers Pension Plan Board (as examples), we have an established practice of working with multiple employers under our existing governance framework. Section 39 of the Sponsorship Agreement (1994) acknowledges the multi-employer and multi-union origins of the OPSEU Pension Plan.

The OPTrust Select proposal establishes a 3% contribution rate matched equally by the employer and employee (total contributions are 6%). While this is a modest contribution rate in comparison to some defined benefit plans, it represents a greater expense than some defined contribution or group RRSP plans. For those workplaces that have a DC plan or group RRSP that is greater than 3%, OPTrust Select would represent a cost savings. As part of the discussions the Sponsors had in 2012, and the establishment of the post-2012 funding framework, there must be an acknowledgment from the employer that additional pension costs, if any, would not form the basis of an enhanced funding request from the Government of Ontario. We believe a replication of this qualification may be appropriate.

The main consideration is that the option to join OPTrust is one that is made voluntarily, by the employer and employee groups jointly. It represents a different option than their existing program, if they have one, and should only be undertaken if it can be afforded by both groups.

Decision Requested

OPTrust is seeking approval in principle under Articles 40 and 41 of the OPSEU Pension Plan Sponsorship Agreement, Article 4.02 of the Declaration of Trust and Article 18.1 of the Plan Text of the OPSEU Pension Plan to amend the schedule of benefits to permit the creation of a new additional benefit schedule. The Sponsors of the Plan have the authority to make this change, and no legislative or regulatory change is required.

OPTrust Recommendations to Sponsors

1. Approve the creation of OPTrust Select by amending the Plan Text;
2. Require OPTrust to prepare a formal amendment to the Plan for approval by the Sponsors;
3. Require OPTrust to prepare criteria for enrollment;
4. Require OPTrust to produce an application form for potential new entrants and other supporting documents as needed;
5. Report back on a semi-annual basis on the status of enrollment until such time as the Sponsors agree otherwise.

Financial impact

The pension expense of the OPSEU Pension Plan is consolidated on the balance sheet of the Government of Ontario and is recalculated on an annual basis. Any existing BPS pension plan ultimately is consolidated on the Province's income statement as well as its balance sheet. The simple addition of the schedule of benefits will not on its own increase the pension expense, however as new members are added under the schedule of benefits, the pension expense will increase. The increase in pension expense in the OPSEU Pension Plan will be offset by reductions in other BPS pension expenses as BPS pension plans are consolidated.

Key considerations

The Economic Benefits of Enhancing Retirement Income Security
Providing a stable source of retirement income is important, not only for the income security of retired Ontarians and their families, but for the reduced reliance on public sector support that a defined benefit plan provides when workers are superannuated. In 2013, a study on the economic impact of defined benefit pension plans, conducted by the Boston Consulting Group, found that an estimated 10-15% of defined benefit plan beneficiaries collect the Guaranteed Income Supplement (GIS). In contrast, an estimated 45-50% of other retirees collect GIS. This translates to a reduction of $2-3 billion in GIS payouts per year. The study also found that defined benefit recipients pay between $14 and $16 billion in income, sales and property taxes.

As a large defined benefit plan, OPTrust can provide a new defined benefit option at far less cost than most private sector RRSPs and annuities and with a greater degree of efficiency than a defined contribution plan. A 2015 report from the Canadian Centre for Policy Alternatives[1] analyzed and compared the primary retirement savings vehicles available to Canadians – pension plans and mutual funds. The report found that the weighted fee for a pension plan was 0.38% of assets. Comparable mutual fund fees were 2.1%.

The defined benefit model's efficiency is further supported by 2014 research conducted by Dr. Robert L. Brown and Craig McInnes which examined the implications of converting public sector defined benefit plans to a defined contribution model. The authors note:

> "Our modelling has shown us that for an efficient $10-billion DB plan, converting to individual-account DC arrangements to provide the same value of pension benefit would increase the ongoing cost of the plan by about 77 per cent and increase the required contribution rates accordingly. The portion of the final benefit coming from investment returns would drop from 75 per cent to 45 per cent"[2]

The Government of Ontario has expressed its support and intention to increase retirement income coverage for Ontarians through their efforts to establish the ORPP, which then led to an expanded CPP.

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[1] Edwards, David. "The Feeling's Not Mutual" Canadian Centre for Policy Alternatives, March 2015. www.policyalternatives.ca.
[2] Brown, Dr. Robert L. and McInnes, Craig, "Shifting Public Sector DB Plans to DC", October 2014

The OPTrust proposal is an example of a tool that helps meet that goal and does so in a cost-effective and efficient way.

Mitigating Risk for Plan Members

The funded status of the OPSEU Pension Plan is determined by comparing the plan's current assets plus the present value of future employee and employer contributions to the present value of future obligations. Set within the regulatory environment of the *Pension Benefits Act* (PBA) and the OPSEU Pension Plan Sponsorship agreement, all future risks of a pension plan must be borne by active members and their employers. Increasing the number of active members increases the base over which that risk is spread, and thus reduces any one member's individual risk. For example, plan expansion pools the demographic and economic risk of many members into a single large group.

The Time is Right

Discussions regarding plan expansion between the two Sponsors of OPTrust began in the fall of 2012 after OPTrust, OPSEU and the Government of Ontario were the first group to successfully conclude the Jointly-Sponsored Pension Plan (JSPP) framework agreements.

In August 2015, the Government of Ontario announced the comparable design criteria for the Ontario Retirement Pension Plan (ORPP) which allowed OPTrust to refine its plan design offering to offer the BPS employer and employee groups a "comparable" plan. This design was further refined following the federal government's announcement of an enhanced CPP in the fall of 2016.

Next Steps if Approved

If the proposal is approved by the Sponsors, OPTrust will finalize the formal plan amendments for sign-off by the Sponsors and file them with the Financial Services Commission of Ontario (FSCO) for registration. OPTrust will then be empowered to administer the Plan in accordance with filed amendments, and the changes will be communicated to its members.

OPTrust will then proceed with public documents announcing its intention to expand membership in the Plan, and will proactively reach out to organizations in the BPS.

Risks of approving:

- There could be confusion for intended members and employers between the existing OPSEU Pension Plan and OPTrust Select, and the different costs and benefits of each plan;
- Employers could seek greater government funding to compensate for their increased payroll costs;
- Employees and employers would need to understand that upon joining OPTrust, they no longer set the payroll deduction levels for their retirement savings plan.

Mitigating Strategies

- OPTrust will make itself available to collaborate with employers to ensure that there is a clear delineation between the identity, features and provisions of the existing OPSEU Pension Plan and OPTrust Select. We would make this information available in various media forms used by OPTrust.
- OPTrust will clearly communicate to potential employers that affordability is a key consideration and that signing up for OPTrust Select would not on its own allow them to receive higher transfer payments.
- One of the benefits that employers would realize by joining OPTrust is that they would no longer need to retain responsibility for setting contribution levels. Contribution levels are set by the Sponsors based upon the funded status of the Plan.

Risks of not approving:

- Target members continue to lose out on pensionable service and retirement income the longer they are without pension coverage;
- Could send a contradictory message at a time when the Government is encouraging employers and pension funds to broaden DB pension coverage;
- Declining active to inactive membership ratio within the OPSEU Pension Plan could impact future funding of the Plan;

Linkages to public policy priorities:

Budget 2015 stated "…Without action, there is potential for a growing disparity between those who are well prepared for retirement and those who are not. This is of special concern for today's younger workers, who are at particular risk of being ill prepared for retirement."[3] The Budget papers further articulated the benefits of the ORPP, signaling the intention to strengthen post-retirement income. OPTrust Select is well suited within this policy position. Budget 2015 also articulated the benefit of jointly-sponsored plans (JSPPs) and set forth the policy intent to facilitate conversion of single-employer plans to JSPPs.

In Budget 2014, the Government recognized the value provided by JSPP plans and introduced legislation to facilitate the transfer of pension responsibilities from single employer plans to JSPPs. This built upon the policy initiative first announced in Budget 2013.

Extending the value in pension administration and investment performance that OPTrust can provide to the broader public sector is well aligned with the policy intent of increasing retirement income coverage and leveraging the expertise of Ontario's pension sector.

Arthurs' Commission: OPTrust's proposal is consistent with several of the principles articulated in the Report of the Expert Commission on Pensions (2008), also referred to as 'The Arthurs' Report'. The relevant sections are quoted below:

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[3] Ontario Budget 2015, Chapter 1, Section E.

Page 20: Principle: Maintain and encourage defined benefit pension plans

The Commission's mandate rests on several implicit and explicit assumptions: that DB pensions provide workers with an important form of income security upon retirement; that they thereby relieve pressure on the publicly funded social safety net; that they are useful to employers; that they represent significant aggregations of investment capital; and that in all these ways and more, pension plans make a positive contribution to Ontario's social and economic well-being.

To anticipate the outcome of the detailed review of these assumptions in subsequent chapters: they seem broadly sound. Consequently, I have no hesitation in adopting as the first principle of this report the approach set out in my mandate: public policy in Ontario ought to maintain and encourage DB pension plans.

Page 25: Principle: Facilitate innovation in plan design

Despite their many attractions, DB plans cover a smaller fraction of the Ontario workforce than they used to, and new DB plans have been introduced rather infrequently in recent years. In order to promote the adoption of such plans by a new cohort of sponsors, innovation in the design of such plans should be encouraged or facilitated — not constrained or prevented — by legislators and regulatory authorities. The result of such innovation may be to encourage the emergence of new types of plans that are not, strictly speaking, DB plans, but that are their functional equivalent in the sense that they offer some or all of the advantages traditionally associated with DB plans.
Moreover, those responsible for designing and implementing new types of plans, and for establishing the regulatory frameworks within which they operate, ought to consider how to enable them to respond to changes in the external environment, in the circumstances of the sponsor, and in the composition and needs of the plan membership, while respecting the rights and interests of all stakeholders.

Page 30: Pension systems should not only alleviate poverty among the elderly but also prevent a significant fall in the living standards of workers upon their retirement. Success in achieving the latter objective is usually measured by reference to a suitable, but much-debated, "replacement rate" — the substitution of retirement income for wages from employment.

Page 32: To be sure, DB pension plans have been criticized as "paternalistic" because workers cannot "take control" of their own money or choose their own investments. However, studies have frequently shown that workers seldom know what benefits they have a right to receive, let alone how their pension fund actually works. Even when given individualized investment choices, as are sometimes available under DC plans, they often turn out to lack the financial knowledge and skills necessary to optimize their investment returns. And, of course, by contrast with members of DB plans, DC plan members must not only manage the investment risk, but confront the longevity risk as well.

Page 36: While the data is far from reliable, and reaches back only to the beginning of this decade, it suggests that occupational pensions account for about 20% of the overall purchasing power of retired individuals and couples — their largest single source of income. To be sure, this percentage is not constant among age cohorts; it differs among retirees with different overall levels of income and is lower for those over 85. However, income from occupational pensions amounting to some $36.1 billion in the aggregate clearly represents an important component of the income available to older Ontarians. Moreover, expenditures by retirees of this large sum on goods and services generate multiplier effects that, in turn, benefit businesses, workers and communities across the province.

Page 185: Recommendation 9-2 — Pension policy and legislation ought to facilitate the growth and operation of large-scale pension plans or to enable and encourage cooperation among small and medium-sized plans.

Data on retirement income savings

A growing body of public opinion research, surveys and statistics suggest that many Canadians are saving less than they should for retirement or are unable to do so on their own. Here is a sample of some of these findings:

The Canadian Payroll Association's 2015 survey of employed Canadians found that three-quarters of respondents had saved less than 25% of their retirement goal. 50% of Ontario respondents indicated that on average, they put 5% or less of their pay toward savings and 52% indicated that they were living pay cheque to pay cheque.[4]

Sun Life's 2015 Unretirement Index Report shows that among its respondents, while 36% of working Canadians are worried about outliving their retirement savings, debt reduction remains people's number one financial priority, with paying for personal debt or housing taking precedence over saving for retirement.[5]

Statistics Canada's most recent data on RRSP contributions shows that the national median contribution to an RRSP among tax filers in 2014 was $3,000. This figure was consistent among Ontario tax filers as well. Only 23.0% of tax filers reported contributions to an RRSP in 2014, or just under 6 million Canadians, a number which has remained virtually unchanged since 2009.[6]

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[4] The Canadian Payroll Association's 2015 National Payroll Week Research Surveys of Employed Canadians, Results, The Canadian Payroll Association and Framework Partners Inc., September 2015
http://www.payroll.ca/cpadocs/media/npw2015/NPW_2015_MEDIA_DECK_FINAL.pdf
http://www.payroll.ca/cpadocs/media/npw2015/Ontario_final_Sept_1.pdf

[5] Sun Life Canadian Unretirement Index, 2015 Canadian Unretirement Index Report, Sun Life Financial, February 2015
http://cdn.sunlife.com/static/canada/sunlifeca/About%20us/Canadian%20Unretirement%20Index/Unretirement%20Index%20tool/2015_Sun_Life_Canadian_Unretirement_Index_Report_en.pdf

[6] Registered retirement savings plan contributions, 2014, Statistics Canada http://www.statcan.gc.ca/daily-quotidien/160226/dq160226b-eng.htm

Objectives

For the Government

- Enhanced sustainability for the OPSEU Pension Plan and greater pension coverage for Ontarians.
- Implementation of budget policy that the Government can showcase.
- More stable pension coverage in Ontario.

For OPSEU

- Enhanced sustainability for the OPSEU Pension Plan.
- Provide a meaningful defined benefit to members who have no or inadequate pension coverage.
- A greater level of income replacement ratio at retirement.

For Single Employer with an existing plan

- Transfer of fiduciary responsibility to a large public sector plan with internal risk management capability.
- Greater spreading of demographic and economic risk with other plan members.
- Solvency relief through the JSPP regulatory regime.
- Freeing up resources for employers that would allow them to focus on providing core public services.

Advantages for Employers

With OPTrust as the plan administrator, employers get a workplace pension plan without:

- Most costs associated with the ongoing administration of a pension plan (e.g., legal, consulting, accounting, audit and investment management fees).
- Pension administration tasks including actuarial valuations, accounting, member enrollments, payment of entitlements and communications.

Employers can benefit from:

- Reduced regulatory risk.
- OPTrust's established and successful investment management team and diversified investment portfolio.
- A Jointly Sponsored Pension Plan governance model which jointly manages risk between employer and employee and its favourable funding requirements (going concern basis).
- A larger active membership base which provides long-term stability and helps manage contribution risk.
- Transferring these responsibilities to OPTrust lets employers focus on their core business and can help them free up resources for other priorities and operate more efficiently.

Advantages for Employees

- Access to a defined benefit pension plan at a modest cost.
- Access to OPTrust's direct-to-member service delivery model, which is recognized for excellence in customer service.
- Shared demographic and economic risk with a larger pool.
- A larger active membership base which provides long-term stability and helps manage contribution risk.

Key Messages

- Ontario's public sector defined benefit plans, including OPTrust, are global pension leaders.

- At OPTrust, we strongly believe in the jointly-sponsored defined benefit pension plan model. It is a cost-efficient and effective way to provide members with a steady stream of lifetime retirement income.

- Ontario's large, defined benefit, jointly-sponsored, public sector pension plans – including OPTrust – are recognized global leaders, both as investors and pension administrators. An article from The Economist has called Canada's large public sector DB plans, "Maple Revolutionaries" noting that "They have won the attention both of Wall Street firms, which consider them rivals, and institutional investors, which aspire to be like them." The article goes on to highlight that "The main draw of the Canadian model is cost savings."

- Expanding the OPSEU Pension Plan promotes a better retirement outcome for more Ontarians.

- By inviting other broader public sector employers to join OPTrust, we are removing the cost and burden of administering complex pension plans from prospective employers. This will make it easier and more cost-efficient for more employers to offer defined benefit pension plans in the future, and build greater retirement security for more workers.

- Expanding the OPSEU Pension Plan can help support greater operational efficiency in Broader Public Sector employers.

- Expanding the OPSEU Pension Plan supports long-term sustainability of the Plan for its existing 89,000 members and pensioners.

- For the OPSEU Pension Plan, expanding the plan to more members helps us strengthen its long-term sustainability by reducing costs and spreading funding risk. It may also help manage the need for future contribution rate increases, help maintain our fully-funded position and provide overall benefit stability.

OPTrust Select

Benefit Design

The intent of this benefit is to provide a retirement income at age 65. The resulting design is a “no frills” defined benefit plan without ancillary benefits. There are no subsidized early retirement provisions or bridge benefits. The benefit accrual is 0.7% of earnings with earnings based on a career average salary. Cost of living increases (indexation) will be provided on an ad-hoc basis if the plan is sufficiently funded. The contributions to the plan will be 3.0% of earnings for employees and employers.

	Benefits Included
Contribution Rate	3.0% each, for the employee and employer
Accrual Type	Based on entire career earnings
Accrual Rate	0.7%
Early Retirement Benefits	None
Bridge Benefits/CPP Integration	None
Joint and survivor Benefits	Life Only pension – otherwise actuarial equivalent to life only pension
Indexation	100% Ad-hoc indexing - only paid if plan is sufficiently funded

Design Advantages and Disadvantages

The advantages of this design are as follows:

1) A high degree of risk sharing between members and employers
   - Career Average Plan provides greater flexibility for any future benefit improvements by reducing averaging period
   - Early retirement windows can be negotiated
2) Some degree of risk sharing with Retirees
   - Cost of living increases intended to be paid, however, they depend on the Plan’s funded position
3) More predictable benefit and in turn costs
   - Not based on unknown earnings near retirement
   - Higher level of equity among groups of members

4) Reasonable income replacement ratio for most members

The disadvantages of this design are as follows:

1) May limit human resource management flexibility
   - Relatively lower income replacement ratio for higher earners compared to higher earners in the existing OPSEU Pension Plan schedule of benefits (no CPP integration)
   - Early retirement windows can be expensive if pension plan is used to downsize workforce – no pre-funding of unreduced early retirement prior to age 65

Existing Federal Retirement Benefits

The CPP and other social security benefits are designed to ensure a secure post retirement income for low earners. The following chart approximates how much CPP and OAS is provided annually given various pre-retirement incomes:

Pre-Retirement Earnings	$25,000	$50,000	$75,000	$100,000
Approximate Basic CPP Income	$6,250	$12,500	$13,725	$13,725
Approximate Enhanced CPP Income	2,083	4,167	7,137	7,137
Maximum OAS Income*	6,846	6,846	6,846	6,846
Retirement Income CPP & OAS	$15,179	$23,513	$27,708	$27,708
Social Security Income Replacement Ratio at 65	61%	47%	37%	28%

*Assumes member's post retirement income is lower than $73,756 (starting point for OAS clawback)

The chart shows that the lower the income, the higher the replacement ratio. Members with higher pre-retirement incomes will require more savings and higher pensions to maintain their pre-retirement standard of living.

OPTrust Select Replacement Ratios

The following chart outlines the annual retirement income including CPP, OAS and the proposed OPTrust Select benefits. The assumptions used for these figures can be found in *Appendix A - Data and Assumptions*.

Pre-Retirement Earnings	$25,000	$50,000	$75,000	$100,000
Retirement Income CPP & OAS	$15,179	$23,513	$27,708	$27,708
Proposed Plan (25 years of credit)	3,220	6,440	9,660	12,881
Total Retirement Income	$18,399	$29,953	$37,368	$40,589
Income Replacement Ratio at 65	74%	60%	50%	41%

The replacement ratios for the target group of members (who earn $75,000 or less annually) is 50% of their pre-retirement earnings or more. This is a significant income replacement amount, although some members may still require additional savings.

Benefit Design Valuation

The following table shows the actuarial valuation of the OPTrust Select benefits. The intended benefits are the benefit as outlined in the *Benefit Design* section and include full indexation of the benefits. The core benefits are the intended benefits without indexation. The data and assumptions used for these figures can be found in *Appendix A – Data and Assumptions*.

Valuation results of proposed plan design ($ Millions)

	0.7% Career Average Earnings (Core Benefit)	**0.7% Career Average Earnings (Intended Benefit)**
Assets		
Present Value of Future Contributions	$ 1,732	$ 1,732
Liabilities		
Present Value of Future Benefits	$1,359	1,694
Present Value of Expected Expenses	29	29
Total Expected Liabilities	1,388	1,723
Funding Cushion	$ 344	$ 9
Probability of Contributions Sustaining the Benefits	74%	52%

The above chart shows that the core benefit can be provided with a high degree of probability (74%). The intent would to be to provide indexation so long as the funded status permits. This design allows for limited level of risk sharing between active members, retired members and employers while at the same time guaranteeing a minimum benefit.

Details of OPTrust Select

Eligibility for Employers to Participate
Participation will be available to Ontario employers belonging to the broader public sector who have limited or no pension coverage for their employees and are approved by the Sponsors. Details of the eligibility requirements still need to be finalized. OPTrust has the authority to refuse entry to any employer if the demographics of the employer's participants would be disadvantageous to the OPSEU Pension Plan as a whole.

Eligibility for Members to Join
Within an accepted employer to "OPTrust Select", it is expected that enrollment will be mandatory for all new hires of that employer, while current members will be required to join no later than the date any new collective agreement becomes effective.

Contributions
Employee contributions will be 3.0% of Earnings. Employers will make matching contributions. The contribution rate would be identical for all new employers joining "OPTrust Select".

Purchase of Prior Service
Purchases of past service will only be permitted on an actuarial equivalent basis without any subsidy from the Plan. A member could amortize the buyback over a period of 10 years, but the interest rate for the amortization period would equal the discount rate used to calculate the buyback cost.

Leaves of Absence
Leaves may be purchased on the same basis as in the existing Plan (either the member and employer will pay contributions or the member will pay double contributions, depending on the type of leave). However, any portion of a leave which occurred prior to the employer commencing participation in the Plan may only be purchased as "prior service" (see above).

Termination Options
Former members will not be permitted to transfer under the terms of any existing reciprocal transfer agreement. A former member entitled to a deferred pension who has not attained age 55 may elect to transfer the commuted value of his or her deferred pension to another pension plan (if that pension plan is willing to accept a transfer) or to a prescribed retirement savings arrangement.

Long Term Income Protection
When a member becomes entitled to benefits from the Long Term Income Protection plan for public servants or benefits from a similar plan, the Employer will make contributions to the Plan on behalf of the member and the member will be credited with service for the period of disability based on the member's salary at the date of disability, adjusted annually for inflation.

Disability Pension
None.

Limited Life Expectancy
A member may terminate membership and receive the commuted value of his/her pension in cash provided that the member provides medical evidence to support a life expectancy of less than two years. The preceding also applies to a former member with a deferred pension entitlement.

Normal Retirement Pension
Normal retirement will be at age 65. The annual amount of retirement pension the member will earn, in each year of credited service, is equal to 0.7% of annual salary. The pension formula will be based on a member's career average earnings and years of credited service.

Early Retirement Pension
Reduced pension benefits will be available to members who retire on or after age 55 and before age 65. The amount of retirement pension will be determined as described in the Normal Retirement Pension section, but will be actuarially reduced for the period of time the member's pension commencement precedes age 65.

50 Per Cent Rule

When a member terminates employment, the amount, if any, of member contributions accumulated with interest that exceeds one-half the commuted value of the member's deferred pension will be payable to the member in cash or transferred to their RRSP.

Inflation Protection

There will be no guaranteed inflation protection. Pensions may be increased on an ad hoc basis depending on the funded status of the Plan.

Member/Former Member Death (Pre-Retirement)

When a member or former member dies prior to receiving a pension, a benefit equal to the commuted value of the member's deferred pension entitlement will be payable to the member's surviving spouse, either as a lump sum or a monthly pension. If there is no spouse at the date of member death, a benefit equal to the commuted value of the member's deferred pension entitlement will be payable to the member's designated beneficiary or estate, as a lump sum only.

Pensioner Death (Post-Retirement)

a) For members retiring without a spouse the normal form of payment will be a Life Only pension payable for the lifetime of the member. The beneficiary of a pensioner without a spouse will receive a refund of the pensioner's contributions with interest less the pension payments received by the pensioner prior to death.

b) Members with an eligible spouse at retirement must elect a 60% Joint and Survivor pension unless the member's eligible spouse signs a spousal waiver form. The 60% joint and survivor pension will be actuarially equivalent to the Life Only pension. Other options will be available on an actuarially equivalent basis, with the requirement that the Joint and Survivor pension be equal to at least 60% of the pension paid to the member.

Appendix A – Data and Assumptions

Valuation Data

The data used for this analysis was the OPSEU Pension Plan active membership used for the actuarial valuation of the OPSEU Pension Plan as at December 31, 2016. The membership was determined as of September 25, 2016 and adjusted to provide the December 31, 2016 membership. An assumption for new entrants from September to December was made based on the rate of new entrants in the first 8 months of 2016. A document titled "2016 AVE Summary and Consolidated Procedures.doc" details the methodology used to determine the December 31, 2016 plan membership data for purposes of this valuation. This valuation has not been filed yet.

The active data was further adjusted to remove prior service for pension accrual. All members were assumed to have zero contributions with interest as at December 31, 2016.

The following is a summary of the key data items as at December 31, 2016:

Number of active members	43,575
Average age	45.1 years
Average credited service	0.0 years
Total estimated payroll as at January 1, 2017	$2,745,147,729
Average estimated earnings as at January 1, 2017	$62,998

Economic Assumptions

Price Inflation (CPI)	2.00% per annum
Valuation discount rate (net of assumed investment expenses)	5.90% per annum
Allowance for non-investment expenses	$2 million per year, over the next 30 years
Average national wage increases	2.50%
Average members' earnings increases	2.75% per annum plus promotional scale
Interest on members' required contributions	3.00% per annum

Demographic Assumptions

Mortality	2014 Private Sector Canadian Pensioners' Mortality Table, multiplied by a factor of 1.08, projected generationally using Scale B
Retirement	Age 65
Disability	No provision (membership continues)
Termination	
• rates	Service-related rates (as per the December 31, 2015 valuation report)
• benefits	70% elect a commuted value (based on a discount rate of 2.0% and CPM2014 generational mortality), and 30% elect a deferred annuity

Marital status

- female members 60% have a spouse
- male members 85% have a spouse

Member / spouse age difference

- female members Spouse 2 years older
- male members Spouse 3 years younger

Actuarial Methods

Actuarial cost method Modified Aggregate

Probability of Contributions Sustaining Benefits

Based on the Willis Towers Watson investment model as of December 31, 2015

OPTrust Select Replacement Ratio Assumptions

The following data and assumptions were used for the replacement ratio illustrations:

Data

- Age at OPTrust plan entry 40 years
- Age at retirement 65 years
- Years of credit in the plan 25 years

Assumptions and Methodology

- Member was assumed to have a final pre-retirement salary of $25,000, $50,000, $75,000, or $100,000 per annum, as indicated. The salary prior to the date of retirement was assumed to increase by 2.75% per annum.
- The Canada Pension Plan (CPP) and the Old Age Security (OAS) maximum benefits were set at January 1, 2016 levels. CPP figures have been calculated based on the enhanced benefits that will be phased in beginning in 2019.
- The Replacement ratio is equivalent to the sum of the benefit paid from the pension plan and the maximum OAS and CPP benefits (based on the member's salary), divided by the pre-retirement salary.