

1 **Q. At 3-9 NP discusses the return on its defined benefit pension plan. In 2016, NP**
 2 **provided (CA-NP-014) its consulting actuaries Capital Market Assumptions and**
 3 **Methodology (AON Hewitt) and Economic and Market Outlook (Mercer) related to**
 4 **these values. Please provide the latest equivalent reports and any other reports in**
 5 **its possession that deal with future equity and bond market returns.**

6
 7 A. Newfoundland Power’s defined benefit pension plan (the “Plan”) currently assumes an
 8 expected return on assets of 5.25% as at December 31, 2017.¹

9
 10 The long-term target asset mix used by the Company is 40% equities and 60% bonds.
 11 The target mix of equities and bonds, together with the expected long-term rates of
 12 return, assumed in calculating the expected return on assets of 5.25% is shown in
 13 Table 1.

Table 1
Defined Benefit Pension Plan
Target Asset Mix and Expected Return
2017

	Asset Mix	Expected Return
Equities	40%	7.7%
Bonds	60%	3.0%

14 Newfoundland Power observes that the long-term return on equities used by pension
 15 actuaries is a geometric return. The use of geometric values is appropriate to measure
 16 performance of pension assets over a long period. The use of geometric returns is,
 17 however, not appropriate for the estimation of a utility’s cost of capital. Only *arithmetic*
 18 returns are appropriate for the estimation of a utility’s cost of capital.²

19
 20 Newfoundland Power requested that its actuary, Mercer (Canada) Ltd. (“Mercer”),
 21 provide the Company with an equivalent equity return to the 7.7% geometric value
 22 expressed on an arithmetic basis. Mercer has indicated that if the 7.7% equity return
 23 assumption used in the 5.25% overall return on assets in the Plan were expressed on an
 24 arithmetic basis, the return assumption for equity returns in the Plan would be 9.2%.¹

¹ Attachment A to this response includes Mercer’s response to the Company’s request, related to (i) the actuarial assumed long term expected return for the Plan, and (ii) the translation of the equity return assumption from a geometric to an arithmetic return.

² The appropriateness of using arithmetic versus geometric means in estimating utilities’ cost of capital is discussed in, amongst other places, Morin, *New Regulatory Finance*, p.133 *et. seq.*

1 Newfoundland Power does not believe it would be appropriate for the Board to use a
2 pension assumption of a long run equity market return as a basis for the allowed return on
3 equity for Newfoundland Power. Even if the long run geometric return is translated to an
4 arithmetic return, the proposition that pension fund return assumptions form a legitimate
5 basis for establishing a utility's cost of equity has conceptual difficulties. One difficulty
6 is that a pension assumption of a long run equity market return reflects a diversified
7 equity portfolio return, which is not necessarily comparable in risk to the equity of a
8 utility in Newfoundland Power's circumstances. A second difficulty relates to the
9 differing goals of pension fund management (to ensure availability of assets to fund
10 employee retirement income) and utility regulation (to set a fair return).

11
12 Attachment B to this response is Mercer (Canada) Limited's report on Newfoundland
13 Power's Retirement Income Plan titled *Report on the Actuarial Valuation for Funding*
14 *Purposes as at December 31, 2017*.

Mercer (Canada) Ltd.
Detailed Breakdown of Newfoundland Power's Expected Long Term Return
on Defined Benefit Pension Plan Assets



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Canada

1 August 2018

Subject: Expected Return on Pension Plan Assets

Dear Brian:

As requested in your email of July 31, 2018, the table below shows the development of Newfoundland Power's long term expected return on its defined benefit pension assets as at December 31, 2017:

Asset Class	Target Asset Mix	Weighted Geometric Average Expected Return	Weighted Average Return
Equities	40%*	7.67%	3.07%
Bonds	60%	3.00%	1.80%
			4.87%
		Diversification adjustment	0.51%
		Expenses	(0.15%)
			5.23%
			(5.25% after rounding)

*10% Canadian equity (large cap), 13% global equity (large cap), 6% global low volatility, 5% global equity (small cap), 6% emerging markets equity

If the 7.67% geometric expected return on equities, shown in the table above, were expressed on an arithmetic basis, the equivalent return expectation would be 9.19%.

Sincerely,

Diana Directo
Senior Associate

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**Report on the Actuarial Valuation
for Funding Purposes as at December 31, 2017**

HEALTH WEALTH CAREER

NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN

REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2017

APRIL 2018

Newfoundland and Labrador Pension Authorities Registration Number: 75241

Canada Revenue Agency Registration Number: 0486365

Note to reader regarding actuarial valuations:

This valuation report may not be relied upon for any purpose other than those explicitly noted in the Introduction, nor may it be relied upon by any party other than the parties noted in the Introduction. Mercer is not responsible for the consequences of any other use. A valuation report is a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict a pension plan's future financial condition or its ability to pay benefits in the future. If maintained indefinitely, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the amount of plan expenses, and the amount earned on any assets invested to pay the benefits. These amounts and other variables are uncertain and unknowable at the valuation date. The content of the report may not be modified, incorporated into or used in other material, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's permission. All parts of this report, including any documents incorporated by reference, are integral to understanding and explaining its contents; no part may be taken out of context, used, or relied upon without reference to the report as a whole.

To prepare the results in this report, actuarial assumptions are used to model a single scenario from a range of possibilities for each valuation basis. The results based on that single scenario are included in this report. However, the future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material. Different assumptions or scenarios within the range of possibilities may also be reasonable, and results based on those assumptions would be different. Furthermore, actuarial assumptions may be changed from one valuation to the next because of changes in regulatory and professional requirements, developments in case law, plan experience, changes in expectations about the future, and other factors.

The valuation results shown in this report also illustrate the sensitivity to one of the key actuarial assumptions, the discount rate. We note that the results presented herein rely on many assumptions, all of which are subject to uncertainty, with a broad range of possible outcomes, and the results are sensitive to all the assumptions used in the valuation.

Should the plan be wound up, the going concern funded status and solvency financial position, if different from the wind-up financial position, become irrelevant. The hypothetical wind-up financial position estimates the financial position of the plan assuming it is wound up on the valuation date. Emerging experience will affect the wind-up financial position of the plan assuming it is wound up in the future. In fact, even if the plan were wound up on the valuation date, the financial position would continue to fluctuate until the benefits are fully settled.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security, and/or benefit-related issues should not be made solely on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic, and societal factors, including financial scenarios that assume future sustained investment losses.

Funding calculations reflect our understanding of the requirements of *Pension Benefits Act (Newfoundland and Labrador)*, the Income Tax Act, and related regulations that are effective as of the valuation date. Mercer is not a law firm, and the analysis presented in this report is not intended to be a legal opinion. You should consider securing the advice of legal counsel with respect to any legal matters related to this report.

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1

SUMMARY OF RESULTS

	31.12.2017	31.12.2014
Going Concern Financial Status		
Actuarial value of assets	\$408,808,000	\$352,043,000
Going concern funding target	\$339,097,000	\$319,932,000
Funding excess (shortfall)	\$69,711,000	\$32,111,000
Funded ratio	120.6%	110.0%
Hypothetical Wind-up Financial Position		
Wind-up assets	\$421,391,000	\$375,096,000
Wind-up liability	\$412,745,000	\$382,074,000
Wind-up excess (shortfall)	\$8,646,000	(\$6,978,000)
Wind-up ratio	102.1%	98.2%
Funding Requirements in the Year Following the Valuation ¹		
Total current service cost	\$3,577,000	\$4,103,000
Estimated members' required contributions	(\$793,000)	(\$964,000)
Estimated employer's current service cost	\$2,784,000	\$3,139,000
Employer's current service cost as a percentage of members' pensionable earnings	14.37%	13.60%
Minimum special payments	\$0	\$7,046,111

¹ Provided for reference purposes only. Contributions must be remitted to the Plan in accordance with the Minimum Funding Requirements and Maximum Eligible Contributions sections of this report.

	31.12.2017	31.12.2014
Estimated minimum employer contribution	\$2,784,000	\$10,185,111
Estimated maximum eligible employer contribution	\$2,784,000	\$10,185,111
Next required valuation date	December 31, 2020	December 31, 2017

2

INTRODUCTION

TO NEWFOUNDLAND POWER INC.

At the request of Newfoundland Power Inc., we have conducted an actuarial valuation of the Newfoundland Power Inc. Retirement Income Plan (the “Plan”), sponsored by Newfoundland Power Inc. (the “Company”), as at the valuation date, December 31, 2017. We are pleased to present the results of the valuation.

PURPOSE

The purpose of this valuation is to determine:

- The funded status of the Plan as at December 31, 2017 on going concern, hypothetical wind-up, and solvency bases;
- The minimum required funding contributions from 2018, in accordance with the *Pension Benefits Act (Newfoundland and Labrador)*; and
- The maximum permissible funding contributions from 2018, in accordance with the *Income Tax Act*.

The information contained in this report was prepared for the internal use of the Newfoundland Power Inc. and for filing with the Newfoundland and Labrador Pension Authorities and with the Canada Revenue Agency, in connection with our actuarial valuation of the Plan. This report will be filed with the Newfoundland and Labrador Pension Authorities and with the Canada Revenue Agency. This report is not intended or suitable for any other purpose.

In accordance with pension benefits legislation, the next actuarial valuation of the Plan will be required as at a date not later than December 31, 2020, or as at the date of an earlier amendment to the Plan.

TERMS OF ENGAGEMENT

In accordance with our terms of engagement with the Newfoundland Power Inc., our actuarial valuation of the Plan is based on the following material terms:

- It has been prepared in accordance with applicable pension legislation and actuarial standards of practice in Canada.

- As instructed by Newfoundland Power Inc., we have not reflected a margin for adverse deviations in the going concern valuation.
- We have reflected the Newfoundland Power Inc. decisions for determining the solvency funding requirements, summarized as follows:
 - The same plan wind-up scenario was hypothesized for both hypothetical wind-up and solvency valuations
 - The solvency financial position was determined on a market value basis.

See the Valuation Results - Solvency section of the report for more information.

EVENTS SINCE THE LAST VALUATION AT DECEMBER 31, 2014

Pension Plan

There have been no special events since the last valuation date.

This valuation reflects the provisions of the Plan as at December 31, 2017. The Plan has not been amended since the date of the previous valuation, and we are not aware of any pending definitive or virtually definitive amendments coming into effect during the period covered by this report. The Plan provisions are summarized in Appendix F.

Assumptions

We have used the same going concern valuation assumptions and methods as were used for the previous valuation, except for the following:

	CURRENT VALUATION	PREVIOUS VALUATION
Discount rate:	4.95%	5.25%

A summary of the going concern methods and assumptions is provided in Appendix C.

The hypothetical wind-up and solvency assumptions have been updated to reflect market conditions at the valuation date. A summary of the hypothetical wind-up and solvency methods and assumptions is provided in Appendix D.

Regulatory Environment and Actuarial Standards

There have been no changes to the Act or the relevant regulations which impact the funding of the Plan.

At its meeting on June 9, 2015, the Actuarial Standards Board (ASB) decided to promulgate the use of the following mortality table with respect of the computation of pension commuted values (“CIA CV Standard”), effective October 1, 2015: *Mortality rates equal to the 2014 Canadian Pensioners*

Mortality Table (CPM2014) combined with mortality improvement scale CPM Improvement Scale B (CPM-B). The change affects the mortality assumption used to value the solvency and wind-up liabilities for benefits assumed to be settled through a lump sum transfer. The financial impact of the change in the CIA CV Standard has been reflected in this actuarial valuation on a solvency and hypothetical wind-up basis.

On July 20, 2017, the Canadian Institute of Actuaries released an Exposure Draft with proposed changes to the standards for pension commuted values (“CIA CV Standard”). The impact of any changes to the CIA CV Standard will be considered in a future actuarial valuation, once the amendments are finalized.

The Canadian Institute of Actuaries Task Force on Mortality Improvement (Task Force) released a report on September 20, 2017 which recommends that Canadian actuaries consider the selection of mortality improvement scale MI-2017 for the purpose of reflecting future mortality improvement in Canadian actuarial work, while acknowledging that it might be appropriate to use alternative mortality improvement assumptions to reflect the nature of the work. The CIA Committee on Pension Plan Financial Reporting published a revised version of the Educational Note on the Selection of Mortality Assumptions for Pension Plan Valuations on December 21, 2017. The Educational Note indicates that given the recent publication of the CPM-B (published in February 2014 as part of the Canadian Pensioners Mortality study) and MI-2017 improvement scales and the similar data sets used in their development, it may be appropriate to use either scale in the absence of credible information to the contrary, such as the publication of a successor scale by the CIA.

SUBSEQUENT EVENTS

After checking with representatives of the Company, to the best of our knowledge there have been no events subsequent to the valuation date which, in our opinion, would have a material impact on the results of the valuation. Our valuation reflects the financial position of the Plan as of the valuation date and does not take into account any experience after the valuation date.

IMPACT OF CASE LAW

This report has been prepared on the assumption that all claims on the Plan after the valuation date will be in respect of benefits payable to members of the Plan determined in accordance with the Plan terms and that all Plan assets are available to provide for these benefits. It is possible that court and regulatory decisions and changes in legislation could give rise to additional entitlements to benefits under the Plan and cause the results in this report to change. By way of example, we bring your attention to the following decisions:

- The Ontario Court of Appeal's 2003 decision in *Aegon Canada Inc. and Transamerica Life Canada versus ING Canada Inc.* restricted the use of original plan surplus where two or more pension plans were merged.

- The Supreme Court of Canada's 2004 decision in *Monsanto Canada Inc. versus Superintendent of Financial Services* upheld the requirement, with retroactive effect, to distribute surplus on partial plan wind-up under the *Pension Benefits Act (Ontario)*.

Although these decisions dealt with Ontario legislation, it is possible that they could have application to other provinces where the underlying language in the *Pension Benefits Act (Ontario)* is similar to language in the legislation of other provinces.

We are not in a position to assess the impact that such decisions or changes could have on the assumption that all plan assets on the valuation date are available to provide for benefits determined in accordance with the Plan terms. If such a claim arises subsequent to the date of this report, the consequences will be dealt with in a subsequent report. We are making no representation as to likelihood of such a claim.

3

VALUATION RESULTS – GOING CONCERN

FINANCIAL STATUS

A going concern valuation compares the relationship between the value of Plan assets and the present value of expected future benefit cash flows in respect of accrued service, assuming the Plan will be maintained indefinitely.

The results of the current valuation, compared with those from the previous valuation, are summarized as follows:

	31.12.2017	31.12.2014
Assets		
Market value of assets	\$421,641,000	\$375,346,000
Asset smoothing adjustment	(\$12,833,000)	(\$23,303,000)
Smoothed value of assets	\$408,808,000	\$352,043,000
Going concern funding target		
• Active members	\$136,543,000	\$158,268,000
• Pensioners and survivors	\$200,579,000	\$160,187,000
• Deferred pensioners	\$1,679,000	\$248,000
• Pending Settlement	\$296,000	\$1,229,000
Total	\$339,097,000	\$319,932,000
Funding excess (shortfall)	\$69,711,000	\$32,111,000

The going concern funding target is based on best-estimate assumptions and does not include a provision for adverse deviations.

RECONCILIATION OF FINANCIAL STATUS

Funding excess (shortfall) as at previous valuation		\$32,111,000
Interest on funding excess (shortfall) at 5.25% per year		\$5,328,000
Employer's special payments, with interest		\$8,055,000
Expected funding excess (shortfall)		\$45,494,000
Net experience gains (losses)		
• Investment return	\$32,156,000 ²	
• Increases in pensionable earnings	\$5,879,000	
• Increase in YMPE	(\$1,238,000)	
• Increase in maximum pension	\$257,000	
• Mortality	\$862,000	
• Retirement	(\$1,188,000)	
• Termination	(\$183,000)	
Total experience gains (losses)		\$36,545,000
Impact of changes in assumptions		
• Discount rate	(\$12,002,000)	
Total assumption changes impact		(\$12,002,000)
Data Corrections		(\$486,000)
Net impact of other elements of gains and losses		\$160,000
Funding excess (shortfall) as at current valuation		\$69,711,000

CURRENT SERVICE COST

The current service cost is an estimate of the present value of the additional expected future benefit cash flows in respect of pensionable service that will accrue after the valuation date, assuming the Plan will be maintained indefinitely.

² Investment income return gain(loss) is based on the smoothed value of assets

The current service cost during the year following the valuation date, compared with the corresponding value determined in the previous valuation, is as follows:

	2018	2015
Total current service cost	\$3,577,000	\$4,103,000
Estimated members' required contributions	(\$793,000)	(\$964,000)
Estimated employer's current service cost	\$2,784,000	\$3,139,000
Employer's current service cost expressed as a percentage of members' pensionable earnings ³	14.37%	13.60%

The key factors that have caused a change in the employer's current service cost since the previous valuation are summarized in the following table:

Employer's current service cost as at previous valuation	13.60%
Demographic changes	(0.19%)
Changes in assumptions	0.96%
Employer's current service cost as at current valuation	14.37%

DISCOUNT RATE SENSITIVITY

The following table summarizes the effect on the going concern funding target and current service cost shown in this report of using a discount rate which is 1% lower than that used in the valuation. For the purposes of the illustration, we have not changed the interest rate used to determine commuted values upon termination of employment.

SCENARIO	VALUATION BASIS	REDUCE DISCOUNT RATE BY 1%
Going concern funding target	\$339,097,000	\$384,870,000
Current service cost		
• Total current service cost	\$3,577,000	\$4,307,000
• Estimated members' required contributions	(\$793,000)	(\$793,000)
Estimated employer's current service cost	\$2,784,000	\$3,514,000

³ The pensionable earnings for this calculation does not include members who are no longer accruing pensionable service.

4

VALUATION RESULTS – HYPOTHETICAL WIND-UP

FINANCIAL POSITION

When conducting a hypothetical wind-up valuation, we determine the relationship between the respective values of the Plan's assets and its liabilities assuming the Plan is wound up and settled on the valuation date, assuming benefits are settled in accordance with the Act and under circumstances consistent with the hypothesized scenario on the valuation date. More details on such scenario are provided in Appendix D.

The hypothetical wind-up financial position as of the valuation date, compared with that at the previous valuation, is as follows:

	31.12.2017	31.12.2014
Assets		
Market value of assets	\$421,641,000	\$375,346,000
Termination expense provision	(\$250,000)	(\$250,000)
Wind-up assets	\$421,391,000	\$375,096,000
Present value of accrued benefits for:		
• Active members	\$163,222,000	\$182,400,000
• Pensioners and survivors	\$246,576,000	\$198,001,000
• Deferred pensioners	\$2,651,000	\$444,000
• Pending Settlement	\$296,000	\$1,229,000
Total wind-up liability	\$412,745,000	\$382,074,000
Wind-up excess (shortfall)	\$8,646,000	(\$6,978,000)

WIND-UP INCREMENTAL COST

The wind-up incremental cost is an estimate of the present value of the projected change in the hypothetical wind-up liabilities from the valuation date until the next scheduled valuation date, adjusted for the benefit payments expected to be made in that period.

The hypothetical wind-up incremental cost determined in this valuation, compared with the corresponding value determined in the previous valuation, is as follows:

	31.12.2017	31.12.2014
Number of years covered by report	3 years	3 years
Total hypothetical wind-up liabilities at the valuation date (A)	\$412,745,000	\$382,074,000
Present value at the valuation date of projected hypothetical wind-up liability at the next required valuation (including expected new entrants) plus expected benefit payments until the next required valuation (B)	\$439,163,000	\$418,178,000
Hypothetical wind-up incremental cost (B – A)	\$26,418,000	\$36,104,000

The incremental cost is not an appropriate measure of the contributions that would be required to maintain the financial position of the Plan on a hypothetical wind-up basis unchanged from the valuation date to the next required valuation date, if actual experience is exactly in accordance with the going concern valuation assumptions. This is because it does not reflect the fact that the expected return on plan assets (based on the going concern assumptions) is greater than the discount rate used to determine the hypothetical wind-up liabilities.

DISCOUNT RATE SENSITIVITY

The following table summarizes the effect on the hypothetical wind-up liabilities shown in this report of using a discount rate which is 1% lower than that used in the valuation:

SCENARIO	VALUATION BASIS	REDUCE DISCOUNT RATE BY 1%
Total hypothetical wind-up liability	\$412,745,000	\$474,798,000

5

VALUATION RESULTS – SOLVENCY

OVERVIEW

Financial Position

The financial position on a solvency basis is the same as the financial position on the Hypothetical Wind-up basis shown in the previous section. The solvency ratio is 102.1% compared to 98.2% at the previous valuation.

EXCEPTIONS	REFLECTED IN VALUATION BASED ON THE TERMS OF ENGAGEMENT
The circumstances under which the Plan is assumed to be wound up could differ for the solvency and hypothetical wind-up valuations.	The same circumstances were assumed for the solvency valuation as were assumed for the hypothetical wind-up valuation.
The solvency financial position can be determined by smoothing assets over a period of up to 5 years.	Solvency assets are set equal to the market value of assets.
The benefit rate increases coming into effect after the valuation date can be reflected in the solvency valuation.	Not applicable.

We have included the value of all benefits that may be contingent upon the circumstances of the plan wind-up.

We have determined the lump sum value payable to all members assumed to elect a lump sum transfer as the commuted value of their accrued benefits as defined under Section 14 of the Newfoundland Labrador Pension Benefits Regulations. This assumes that the Superintendent of Pensions approves the payment of this amount under Paragraph 3 of Directive 9 issued under the Newfoundland Labrador Pension Benefits Act in the postulated plan wind-up. Had we determined the lump sum entitlements for those members as the estimated cost to purchase an annuity at a minimum, the solvency liabilities used would have increased by \$247,000.

6

MINIMUM FUNDING REQUIREMENTS

The Act prescribes the minimum contributions that Newfoundland Power Inc. must make to the Plan. The minimum contributions in respect of a defined benefit component of a pension plan are comprised of going concern current service cost and special payments to fund any going concern or solvency shortfalls.

There is a funding excess and no special payments are required for solvency purposes on the basis of the assumptions and methods described in this report. According to the *Regulation 21 of the Pension Benefits Act (Newfoundland and Labrador)*, the Company may only take a contribution holiday if it does not reduce the solvency surplus below 110.0%. Since the solvency ratio is 102.1%, no contribution holiday is permitted. Under these circumstances the Act requires the employer to contribute to the Plan the employer's current service cost.

On the basis of the assumptions and methods described in this report, the rule for determining the minimum required employer monthly contributions, as well as an estimate of the employer contributions, from the valuation date until the next required valuation are as follows:

Period beginning	EMPLOYER'S CONTRIBUTION RULE		ESTIMATED EMPLOYER'S CONTRIBUTIONS		
	Monthly current service cost	Explicit monthly expense allowance	Monthly current service cost including expense allowance	Amount which can be used to reduce current service contribution	Minimum monthly contributions
January 1, 2018	14.37%	N/A	\$232,000	\$0	\$232,000
January 1, 2019	14.37%	N/A	\$230,833	\$0	\$230,833
January 1, 2020	14.37%	N/A	\$222,750	\$0	\$222,750

The estimated contribution amounts above are based on projected members' pensionable earnings. Therefore, the actual employer's current service cost may be different from the above estimates.

OTHER CONSIDERATIONS

Differences Between Valuation Bases

There is no provision in the minimum funding requirements to fund the difference between the hypothetical wind-up and solvency shortfalls, if any.

In addition, although minimum funding requirements do include a requirement to fund the going concern current service cost, there is no requirement to fund the expected growth in the hypothetical wind-up or solvency liability after the valuation date, which could be greater than the going concern current service cost.

Timing of Contributions

Funding contributions are due on a monthly basis. Contributions for current service cost must be made within 30 days following the month to which they apply. Special payment contributions must be made in the month to which they apply.

Retroactive Contributions

The Company must contribute the excess, if any, of the minimum contribution recommended in this report over contributions actually made in respect of the period following the valuation date. This contribution, along with an allowance for interest, is due no later than 60 days following the date this report is filed.

Payment of Benefits

The solvency ratio shown in this report is not less than one. The Act imposes certain restrictions on the payment of lump sums from the plan when the solvency ratio revealed in an actuarial valuation is less than one.

Specifically, transfers out of the Plan may be made in full provided an amount equal to the transfer deficiency has been remitted to the pension fund in addition to the minimum special payments.

However, transfer deficiencies that are less than 5% of the Year's Maximum Pensionable Earnings ("YMPE") under the Canada/Quebec Pension Plan can be paid in full until such time as the sum of all such transfer deficiencies paid since the date of the last actuarial valuation exceed 5% of the market value of the Plan assets at that date, at which time, this exemption no longer applies.

7

MAXIMUM ELIGIBLE CONTRIBUTIONS

The *Income Tax Act* (the “ITA”) limits the amount of employer contributions that can be remitted to the defined benefit component of a registered pension plan. However, notwithstanding the limit imposed by the ITA, for plans which are not ‘Designated’ as defined in the ITA, in general, the minimum required contributions under the Act can be remitted.

In accordance with Section 147.2 of the ITA and *Income Tax Regulation* 8516, for a plan which is underfunded on either a going concern or on a hypothetical wind-up basis, the maximum permitted contributions are equal to the employer’s current service cost, including the explicit expense allowance if applicable, plus the greater of the going concern funding shortfall and hypothetical wind-up shortfall.

For a plan which is fully funded on both going concern and hypothetical wind-up bases, the employer can remit a contribution equal to the employer’s current service cost, including the explicit expense allowance if applicable, as long as the surplus in the plan does not exceed a prescribed threshold. Specifically, in accordance with Section 147.2 of the ITA, for a plan which is fully funded on both going concern and hypothetical wind-up bases, the plan may not retain its registered status if the employer makes a contribution while the going concern funding excess exceeds 25% of the going concern funding target.

SCHEDULE OF MAXIMUM CONTRIBUTIONS

Since the surplus does not exceed 25% of the going concern funding target, the Company may make monthly contributions of up to 14.37% of pensionable earnings until the next valuation. The contribution requirements should be monitored closely to ensure compliance with the ITA.

8

ACTUARIAL OPINION

In our opinion, for the purposes of the valuations,

- The membership data on which the valuation is based are sufficient and reliable.
- The assumptions are appropriate.
- The methods employed in the valuation are appropriate.

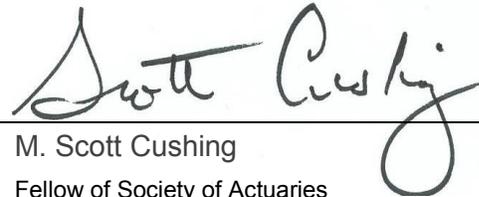
This report has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada. It has also been prepared in accordance with the funding and solvency standards set by the *Pension Benefits Act (Newfoundland and Labrador)*.



Armando Fernandes
Fellow of Society of Actuaries
Fellow of Canadian Institute of Actuaries

26 April 2018

Date



M. Scott Cushing
Fellow of Society of Actuaries
Fellow of Canadian Institute of Actuaries

26 April 2018

Date

APPENDIX A

PRESCRIBED DISCLOSURE

DEFINITIONS

The Act defines a number of terms as follows:

DEFINED TERM	DESCRIPTION	RESULT
Solvency Ratio	The lesser of one and the fraction obtained by dividing the solvency assets of a pension plan by the liabilities of the plan calculated on a plan termination basis as of the latest review date and as required by the superintendent.	102.1%
Solvency Assets	The market value of investments held by a pension plan plus any cash balances of the plan and accrued or receivable income items of the plan, less any amounts payable by the plan. ⁴	\$421,391,000
Solvency Liabilities	Liabilities of a pension plan determined on the basis that the plan is terminated or on a basis that is certified by an actuary to be reasonably approximate to that, taking into account any significant increases or decreases in pension benefits to the plan members as a result of the termination.	\$412,745,000

TIMING OF NEXT REQUIRED VALUATION

In accordance with the Act the next valuation of the Plan would be required at an effective date within three years of the current valuation date.

Accordingly, the next valuation of the Plan will be required as of December 31, 2020.

⁴ In accordance with accepted actuarial practice, for purposes of determining the financial position, the market value of plan assets was adjusted for any in-transit benefit payments, contributions, and other in transit cash flows, and reduced by a provision for estimated termination expenses payable from the Plan's assets that may reasonably be expected to be incurred in terminating the Plan and to be charged to the Plan.

SPECIAL PAYMENTS

As the Plan does not have a going concern deficit or a solvency deficit, no special payments are required.

APPENDIX B

PLAN ASSETS

The pension fund is managed by Blackrock Global Investors and held in trust with RBC Investor and Treasury Services (“RBC Investor Services”).

In preparing this report, we have relied upon RBC Investor Services and data provided by Newfoundland Power Inc. for the period from December 31, 2014 to December 31, 2017. Customarily, this information would not be verified by a plan’s actuary. We have reviewed the information for internal consistency and we have no reason to doubt its substantial accuracy.

RECONCILIATION OF MARKET VALUE OF PLAN ASSETS

The pension fund transactions since the last valuation are summarized in the following table:

	2015	2016	2017
January 1	\$375,346,000	\$382,740,000	\$400,787,000
PLUS			
Members' contributions	\$903,000	\$871,000	\$809,000
Company's contributions			
• Current service	\$3,139,000	\$3,249,000	\$3,363,000
• Past service	\$7,074,000	-	\$15,000
Investment income	\$13,393,000	\$30,450,000	\$35,178,000
	\$24,509,000	\$34,570,000	\$39,365,000
LESS			
Pensions paid	\$15,134,000	\$16,214,000	\$17,240,000
Lump-sums refunds	\$1,569,000	-	\$837,000
Administration and investment fees	\$412,000	\$309,000	\$434,000
	\$17,115,000	\$16,523,000	\$18,511,000
December 31	\$382,740,000	\$400,787,000	\$421,641,000
Gross rate of return ⁵	3.60%	8.09%	8.94%
Rate of return net of expenses ⁶	3.48%	8.00%	8.82%

We have tested the pensions paid, the lump-sums paid, and the contributions for consistency with the membership data for the Plan members who have received benefits or made contributions. The results of these tests were satisfactory.

INVESTMENT POLICY

The plan administrator has adopted a statement of investment policy and procedures which was revised July 19, 2017. This policy is intended to provide guidelines for the manager(s) as to the level of risk that is consistent with the Plan's investment objectives. A significant component of this investment policy is the asset mix.

⁵ Assuming mid-period cash flows.

⁶ Assuming mid-period cash flows.

The plan administrator is solely responsible for selecting the plan's investment policies, asset allocations, and individual investments.

The constraints on the asset mix and the actual asset mix at the valuation date are provided for information purposes:

	INVESTMENT POLICY			ACTUAL ASSET MIX AS AT DECEMBER 31, 2017
	Minimum	Target	Maximum	
Equities	15%	40%	65%	46%
Fixed Income	55%	60%	65%	54%
Cash and cash equivalents	0%	0%	5%	0%
		100%		100%

APPENDIX C

METHODS AND ASSUMPTIONS – GOING CONCERN

VALUATION OF ASSETS

For this valuation, we have continued to use an adjusted market-value method to determine the actuarial value of assets. Under this method, investment gains (losses) arising during a given year are spread on a straight-line basis over three years. As a result, the asset value produced as at December 31, 2017 recognizes the following percentages of the investment gains (losses) that arose during the past years:

YEAR	RECOGNIZED	DEFERRED
2015 and before:	100%	0%
2016:	67%	33%
2017:	33%	67%

The asset values produced by this method are related to the market value of the assets, with the advantage that, over time, the market-related asset values will tend to be more stable than market values. To the extent that more capital gains than losses will arise over the long term, the smoothed value will tend to be lower than the market value.

The actuarial value of the assets, determined as at December 31, 2017 under the adjusted market value method, is \$408,808,000.

This value was derived as follows:

Smoothed Value of Assets as at 31.12.17

Market value of assets		\$421,641,000
LESS		
Unrecognized investment gains/(losses)	2016: \$10,364,000 x 33% =	\$3,454,000
	2017: \$14,068,000 x 67% =	\$9,379,000
		\$12,833,000
Actuarial value of assets		\$408,808,000

GOING CONCERN FUNDING TARGET

Over time, the real cost to the employer of a pension plan is the excess of benefits and expenses over member contributions and investment earnings. The actuarial cost method allocates this cost to annual time periods.

For purposes of the going concern valuation, we have continued to use the projected unit credit actuarial cost method. Under this method, we determine the present value of benefit cash flows expected to be paid in respect of service accrued prior to the valuation date, based on projected final average earnings. This is referred to as the funding target.

The funding excess or funding shortfall, as the case may be, is the difference between the market or smoothed value of assets and the funding target. A funding excess on a market value basis indicates that the current market value of assets and expected investment earnings are expected to be sufficient to meet the cash flows in respect of benefits accrued to the valuation date as well as expected expenses – assuming the plan is maintained indefinitely. A funding shortfall on a market value basis indicates the opposite – that the current market value of the assets is not expected to be sufficient to meet the plan's cash flow requirements in respect of accrued benefits, absent additional contributions.

As required under the Act, a funding shortfall must be amortized over no more than 15 years through special payments. A funding excess may, from an actuarial standpoint, be applied immediately to reduce required employer current service contributions unless precluded by the terms of the plan or by legislation.

The actuarial cost method used for the purposes of this valuation produces a reasonable matching of contributions with accruing benefits. Because benefits are recognized as they accrue, the actuarial cost method provides an effective funding target for a plan that is maintained indefinitely.

Current Service Cost

The current service cost is the present value of projected benefits to be paid under the plan with respect to service expected to accrue during the period until the next valuation.

The employer's current service cost is the total current service cost reduced by the members' required contributions.

The employer's current service cost has been expressed as a percentage of the members' pensionable earnings to provide an automatic adjustment in the event of fluctuations in membership and/or pensionable earnings.

Under the projected unit credit actuarial cost method, the current service cost for an individual member will increase each year as the member approaches retirement. However, the current service cost of the entire group, expressed as a percentage of the members' pensionable earnings, can be expected to remain stable as long as the average age of the group remains constant.

Given that the Newfoundland Power Retirement Income Plan is closed to new entrants, the average age of the group is expected to increase in the future and therefore, the current service cost of the group, expressed as a percentage of the member's pensionable earnings, can be expected to increase as well.

ACTUARIAL ASSUMPTIONS – GOING CONCERN BASIS

The present value of future benefit payment cash flows is based on economic and demographic assumptions. At each valuation we determine whether, in our opinion, the actuarial assumptions are still appropriate for the purposes of the valuation, and we revise them, if necessary. Emerging experience will result in gains or losses that will be revealed and considered in future actuarial valuations.

The table below shows the various assumptions used in the current valuation in comparison with those used in the previous valuation.

ASSUMPTION	CURRENT VALUATION	PREVIOUS VALUATION
Discount rate:	4.95%	5.25%
Inflation:	2.00%	2.00%
ITA limit / YMPE increases:	3.00%	3.00%
Pensionable earnings increases:	3.50% ⁷	3.50% ⁸
Post-retirement pension increases:	None	None
Interest on employee contributions:	4.95%	5.25%
Retirement rates:	One year after the later of the date the member would obtain age 60 and age plus service would total 95 (unreduced eligible date) but not later than age 65.	One year after the later of the date the member would obtain age 60 and age plus service would total 95 (unreduced eligible date) but not later than age 65.
Termination rates:	Age related table	Age related table
Mortality rates:	Canadian Pensioner's 2014 Private Mortality	Canadian Pensioner's 2014 Private Mortality
Mortality improvements:	Fully generational using Scale CPM-B	Fully generational using Scale CPM-B

⁷ 0.00% increase in Pensionable earnings assumed for disabled members

⁸ 0.00% increase in Pensionable earnings assumed for disabled members

ASSUMPTION	CURRENT VALUATION	PREVIOUS VALUATION
Disability rates:	None	None
Eligible spouse at retirement:	80%	80%
Spousal age difference:	Male 3 years older	Male 3 years older

The assumptions are best-estimates and do not include a margin for adverse deviations.

AGE RELATED TABLES

Sample rates from the age related tables are summarized in the following table:

AGE	TERMINATION
25	5.0%
30	2.8%
35	1.6%
39	1.2%
40-64	0.0%

Pensionable Earnings

The benefits ultimately paid will depend on each member's final average earnings. To calculate the pension benefits payable upon retirement, death, or termination of employment, we have taken 2017 pensionable earnings and assumed that such pensionable earnings will increase at the assumed rate.

RATIONALE FOR ASSUMPTIONS

A rationale for each of the assumptions used in the current valuation is provided below.

DISCOUNT RATE

We have discounted the expected benefit payment cash flows using the expected investment return on the market value of the fund net of fees and less a margin for adverse deviations. Other bases for discounting the expected benefit payment cash flows may be appropriate, particularly for purposes other than those specifically identified in this valuation report.

The discount rate is comprised of the following:

- Estimated returns for each major asset class consistent with market conditions on the valuation date, the expected time horizon over which benefits are expected to be paid, and the target asset mix specified in the Plan's investment policy.
- Implicit provision for investment expenses approximately determined as the average rate of investment expenses paid from the fund over the last three year
- Implicit provision for non-investment expenses determined as the average rate of non-investment expenses paid from the fund over the last three years
- A margin for adverse deviations of 0.00%

The discount rate was developed as follows:

Assumed investment return	5.05%
Investment expense provision	(0.05%)
Non-Investment expense provision	(0.05%)
Margin for adverse deviations	(0.00%)
Net discount rate	<u>4.95%</u>

INFLATION

The inflation assumption is based on the mid-point of the Bank of Canada's inflation target range of between 1% and 3%.

INCOME TAX ACT PENSION LIMIT AND YEAR'S MAXIMUM PENSIONABLE EARNINGS

The assumption is based on historical real economic growth and the underlying inflation assumption.

PENSIONABLE EARNINGS

The assumption is based on general wage growth assumptions increased by our best estimate of future merit and promotional increases over general wage growth considering current economic and financial market conditions and company expectations.

RETIREMENT RATES

Due to the size of the Plan, there is no meaningful retirement experience. The assumption is based on the Plan provisions and our experience with similar plans and employee groups.

TERMINATION RATES

Due to the size of the Plan, there is no meaningful termination experience. The assumption is based on an industry table that is consistent with our experience with similar plans and employee groups.

MORTALITY RATES

The assumption for the mortality rates is based on the Canadian Pensioners' Mortality (CPM) study published by the Canadian Institute of Actuaries in February 2014.

Due to the size of the Plan, specific data on plan mortality experience is insufficient to determine the mortality rates. After considering plan-specific characteristics, such as the type of employment, the industry experience, pension and employment income for the plan members, and data in the CPM study, it was determined to use the CPM mortality rates from the private sector without adjustment.

There is broad consensus among actuaries and other longevity experts that mortality improvement will continue in the future, but the degree of future mortality improvement is uncertain. Two mortality improvement scales were recently published by the Canadian Institute of Actuaries (CIA) and may apply to Canadian pension valuations:

- The Canadian Pensioners Mortality (CPM) study published in February 2014 included CPM Improvement Scale B (CPM-B) which is also used for commuted value calculations.
- A report released by the Task Force on Mortality Improvement on September 20, 2017 includes an analysis of the rate of mortality improvement for the Canadian population and provides for mortality improvement scale MI-2017 to be considered for the purpose of reflecting future mortality improvement in Canadian actuarial work, while acknowledging that it might be appropriate to use alternative mortality improvement assumptions to reflect the nature of the work.

The CIA Committee on Pension Plan Financial Reporting published a revised version of the Educational Note on the Selection of Mortality Assumptions for Pension Plan Valuations on December 21, 2017. The Educational Note indicates that given the recent publication of the CPM-B and MI-2017 improvement scales and the similar data sets used in their development, it may be appropriate to use either scale in the absence of credible information to the contrary, such as the publication of a successor scale by the CIA.

For the present valuation, we have continued to use the CPM-B scale, which is a reasonable outlook for future mortality improvement.

Based on the assumption used, the life expectancy of a member age 65 at the valuation date is 21.7 years for males and 24.1 years for females.

INTEREST ON EMPLOYEE CONTRIBUTIONS

The assumption is based on Plan terms and the underlying investment return assumption.

DISABILITY RATES

Use of a different assumption would not have a material impact on the valuation.

ELIGIBLE SPOUSE

The assumption is based on an industry standard for non-retired members (actual status used for retirees).

SPOUSAL AGE DIFFERENCE

The assumption is based on an industry standard showing males are typically 3 years older than their spouse.

APPENDIX D

METHODS AND ASSUMPTIONS – HYPOTHETICAL WIND-UP AND SOLVENCY

HYPOTHETICAL WIND-UP BASIS

The Canadian Institute of Actuaries requires actuaries to report the financial position of a pension plan on the assumption that the plan is wound up on the effective date of the valuation, with benefits determined on the assumption that the pension plan has neither a surplus nor a deficit. For the purposes of the hypothetical wind-up valuation, the plan wind-up is assumed to occur in circumstances that maximize the actuarial liability.

To determine the actuarial liability on the hypothetical wind-up basis, we have valued those benefits that would have been paid had the Plan been wound-up on the valuation date, including benefits that would be immediately payable if the employer's business were discontinued on the valuation date, with all members fully vested in their accrued benefits.

The Standards of Practice of the Canadian Institute of Actuaries require that the scenario upon which the hypothetical wind-up valuation is based be postulated. However, there are no benefits under the plan contingent upon the circumstances of the plan wind-up or contingent upon other factors. Therefore, it was not necessary to postulate a scenario upon which the hypothetical wind-up valuation is made. No benefits payable on plan wind-up were excluded from our calculations. The plan wind-up is assumed to occur in circumstances that maximize the actuarial liability.

The circumstances in which the plan wind-up is assumed to have taken place are as follows: total wind-up in conjunction with cessation of the plan sponsor's operations. No benefits payable on plan wind-up were excluded from our calculations.

Upon plan wind-up, members are given options for the method of settling their benefit entitlements. The options vary by eligibility and by province of employment, but in general, involve either a lump sum transfer or an immediate or deferred pension.

The value of benefits assumed to be settled through a lump sum transfer is based on the assumptions described in Section 3500 – *Pension Commuted Values* of the Canadian Institute of Actuaries' Standards of Practice applicable for December 31, 2017.

Benefits provided as an immediate or deferred pension are assumed to be settled through the purchase of annuities based on an estimate of the cost of purchasing annuities.

We have estimated the cost of settlement through purchase of annuities in accordance with the Canadian Institute of Actuaries Educational Note: Assumptions for Hypothetical Wind-up and Solvency Valuations with Effective Dates Between December 31, 2017 and December 30, 2018.

The Educational Note provides guidance on estimating the cost of annuity purchases assuming a typical group of annuitants. That is, no adjustments for sub- or super-standard mortality are considered. However, it is expected that insurers will consider plan experience and certain plan-specific characteristics when determining the mortality basis for a particular group. The Educational Note states that the actuary would be expected to make an adjustment to the regular annuity purchase assumptions where there is demonstrated substandard or super-standard mortality or where an insurer might be expected to assume so. In such cases, the actuary would be expected to make an adjustment to the mortality assumption in a manner consistent with the underlying annuity purchase basis. Given the uncertainty surrounding the actual mortality basis that would be typical of a group annuity purchase, it is reasonable to assume that there is a range of bases that can be expected not to be materially different from the actual mortality basis. Therefore, an adjustment to the regular annuity purchase assumptions would be warranted when the plan's assumed basis falls outside that range.

In this context, we have determined that no adjustment to the mortality rates used in the regular annuity purchase assumptions is required.

We have not included a margin for adverse deviation in the solvency and hypothetical wind-up valuations.

The assumptions are as follows:

FORM OF BENEFIT SETTLEMENT ELECTED BY MEMBER	
Lump sum:	70% of active members under age 55, and 50% of active members over age 55, elect to receive their benefit entitlement in a lump sum
Annuity purchase:	All remaining members are assumed to elect to receive their benefit entitlement in the form of a deferred or immediate pension. These benefits are assumed to be settled through the purchase of deferred or immediate annuities from a life insurance company.
BASIS FOR BENEFITS ASSUMED TO BE SETTLED THROUGH A LUMP SUM	
Mortality rates:	100% of the rates of the 2014 Canadian Pensioners Mortality Table (CPM2014) with fully generational improvements using CPM Scale B
Interest rate:	2.60% per year for 10 years, 3.40% per year thereafter
BASIS FOR BENEFITS ASSUMED TO BE SETTLED THROUGH THE PURCHASE OF AN ANNUITY	
Mortality rates:	100% of the rates of the 2014 Canadian Pensioners Mortality Table (CPM2014) with fully generational improvements using CPM Scale B
Interest rate:	3.06% per year based on duration of 12.05 years determined for the liabilities assumed to be settled through the purchase of an annuity.
RETIREMENT AGE	
Maximum value:	Members are assumed to retire at the age which maximizes the value of their entitlement from the Plan, based on the eligibility requirements which have been met at the valuation date
OTHER ASSUMPTIONS	
Final average earnings:	Based on actual pensionable earnings over the averaging period
Family composition:	Same as for going concern valuation
Maximum pension limit:	\$2,944.44 for 2018 and increasing at 2.25% per year for 9 years starting in 2019, 2.8% per year thereafter
Termination expenses:	\$250,000

To determine the hypothetical wind-up position of the Plan, a provision has been made for estimated termination expenses payable from the Plan's assets in respect of actuarial and administration expenses that may reasonably be expected to be incurred in terminating the Plan and to be charged to the Plan.

Because the settlement of all benefits on wind-up is assumed to occur on the valuation date and is assumed to be uncontested, the provision for termination expenses does not include custodial, investment management, auditing, consulting, and legal expenses that would be incurred between the wind-up date and the settlement date or due to the terms of a wind-up being contested.

Expenses associated with the distribution of any surplus assets that might arise on an actual wind-up are also not included in the estimated termination expense provisions.

In determining the provision for termination expenses payable from the Plan's assets, we have assumed that the plan sponsor would be solvent on the wind-up date. We have also assumed, without analysis, that the Plan's terms as well as applicable legislation and court decisions would permit the relevant expenses to be paid from the Plan.

Although the termination expense assumption is a best estimate, actual fees incurred on an actual plan wind-up may differ materially from the estimates disclosed in this report.

INCREMENTAL COST

In order to determine the incremental cost, we estimate the hypothetical wind-up liabilities at the next valuation date. We have assumed that the cost of settling benefits by way of a lump sum or purchasing annuities remains consistent with the assumptions described above. Since the projected hypothetical wind-up liabilities will depend on the membership in the Plan at the next valuation date, we must make assumptions about how the Plan membership will evolve over the period until the next valuation.

We have assumed that the Plan membership will evolve in a manner consistent with the going concern assumptions as follows:

- Members terminate, retire, and die consistent with the termination, retirement, and mortality rates used for the going concern valuation.
- Pensionable earnings, the Income Tax Act pension limit, and the Year's Maximum Pensionable Earnings increase in accordance with the related going concern assumptions.
- Active members accrue pensionable service in accordance with the terms of the Plan.

SOLVENCY BASIS

In determining the financial position of the Plan on the solvency basis, we have used the same assumptions and methodology as were used for determining the financial position of the Plan on the hypothetical wind-up basis.

The solvency position is determined in accordance with the requirements of the Act.

APPENDIX E

MEMBERSHIP DATA

ANALYSIS OF MEMBERSHIP DATA

The actuarial valuation is based on membership data as at December 31, 2017, provided by Newfoundland Power Inc.

We have applied tests for internal consistency, as well as for consistency with the data used for the previous valuation. These tests were applied to membership reconciliation, basic information (date of birth, date of hire, date of membership, gender, etc.), pensionable earnings, credited service, contributions accumulated with interest, and pensions to retirees and other members entitled to a deferred pension. Contributions, lump sum payments, and pensions to retirees were compared with corresponding amounts reported in financial statements. The results of these tests were satisfactory.

If the data supplied are not sufficient and reliable for its intended purpose, the results of our calculation may differ significantly from the results that would be obtained with such data. Although Mercer has reviewed the suitability of the data for its intended use in accordance with accepted actuarial practice in Canada, Mercer has not verified or audited any of the data or information provided.

Plan membership data are summarized below. For comparison, we have also summarized corresponding data from the previous valuation.

	31.12.2017	31.12.2014
Active Members		
Number	237	328
Total pensionable earnings for the following year	\$22,664,566	\$28,587,277
Average pensionable earnings for the following year	\$95,631	\$87,156
Average years of pensionable service	28.2 years	27.8 years
Average age	54.8	53.6
Accumulated contributions with interest	\$18,775,561	\$23,504,304
Disabled Members		
Number	30	34
Total pensionable earnings for the following year	\$2,076,581	\$2,160,645
Average pensionable earnings for the following year	\$69,219	\$63,548
Average years of pensionable service	33.4 years	31.7 years
Average age	59.2	56.8
Accumulated contributions with interest	\$1,793,645	\$1,785,169
Deferred Pensioners		
Number	10	1
Total annual pension	\$220,233	\$*
Average annual pension	\$22,023	\$*
Average age	49.7	39.5
Pending		
Number	1	5
Average age	61.3	51.2
Pensioners and Survivors		
Number	761	718
Total annual lifetime pension	\$14,981,340	\$12,129,885
Total annual temporary pension	\$2,543,554	\$2,312,592
Average annual lifetime pension	\$19,686	\$16,894
Average age	72.3	71.5

*suppressed for confidentiality

The membership movement for all categories of membership since the previous actuarial valuation is as follows:

	ACTIVE MEMBERS	DISABLED MEMBERS	DEFERRED VESTED	PENDING	PENSIONERS	SURVIVORS	TOTAL
Total at 31.12.2014	328	34	1	5	567	151	1,086
To disabled	(11)	11					0
Return to Active	5	(5)					0
Terminations:							
• Lump sums				(2)			(2)
• Deferred pensions	(4)		4				0
Deaths	(1)	(1)			(49)	(26)	(77)
Retirements	(80)	(9)	(1)		90		0
Beneficiaries						28	28
Data Correction			6	(2)	(2)	2	4
Total at 31.12.2017	237	30	10	1	606	155	1,039

The distribution of the active members by age and pensionable service as at the valuation date is summarized as follows:

Age	YEARS OF PENSIONABLE SERVICE								Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	
Under 20									
20 to 24									
25 to 29									
30 to 34									
35 to 39									
40 to 44				13					13
45 to 49				9	13	5			27
50 to 54			1	5	19	40	16		81
55 to 59				6	6	17	18	29	76
60 to 64				2	4	7	8	16	37
65 +						1	2		3
Total			1	35	42	70	44	45	237

The distribution of the inactive members by age as at the valuation date is summarized as follows:

Age	DEFERRED PENSIONERS		PENSIONERS AND SURVIVORS			
	Number	Average Pension	Number	Average Pension	Number	Average Bridge
<45	3	\$12,927				
45 – 49	6	\$26,908				
50 – 54	1	\$*				
55 – 59			18	\$32,238	18	\$19,759
60 – 64			158	\$31,497	118	\$18,541
65 – 69			162	\$23,968		
70 – 74			158	\$15,224		
75 – 79			113	\$11,529		
80 – 84			94	\$13,025		
85 – 89			37	\$10,537		
90 – 94			17	\$10,838		
95 – 99			4	\$8,758		
100 +						
Total	10	\$22,023	761	\$19,686	136	\$18,703

*suppressed for confidentiality

APPENDIX F

SUMMARY OF PLAN PROVISIONS

Mercer has used and relied on the plan documents, including amendments and interpretations of plan provisions, supplied by Newfoundland Power Inc. If any plan provisions supplied are not accurate and complete, the results of any calculation may differ significantly from the results that would be obtained with accurate and complete information. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and the results of estimates under each of the different interpretations could vary.

This valuation is based on the plan provisions in effect on December 31, 2017. Since the previous valuation, the Plan has not been amended.

The following is a summary of the main provisions of the Plan in effect on December 31, 2017. This summary is not intended as a complete description of the Plan.

Background	<p>The Plan became effective April 1, 1984. Effective May 1, 2004, the plan was closed to new entrants.</p>
Eligibility for Membership	<p>Each employee hired before the effective date of this plan is eligible to participate. Each employee hired on or after the effective date shall become a member of the plan on the first day of employment.</p> <p>Membership was optional for employees transferred from an affiliated company, for employees hired or designated as manager or executive, and for non-bargaining unit employees hired on or after August 1, 2003.</p>
Employee Contributions	<p>The members are contributing to the plan at the rate of 3 1/3% of their salary up to the Year's Maximum Pensionable Earnings (YMPE) and 5% of their salary in excess of the YMPE. For 1984, the members were contributing at the rate of 60% (2%/3%) of their full rate starting on April 1st.</p> <p>No contributions shall be required to be made beyond 35 years of service. However, members may elect to make contributions beyond completion of 35 years, up to the maximum of \$1,000, in order to attain higher final average earnings.</p> <p>Interest shall be credited on member contributions at a rate not less than the rate at issue of the last Canada Savings Bond issued prior to the start of the calendar year. Effective January 1, 1997, interest shall be credited based on the average of the yields on 5-year personal fixed term chartered bank deposits published in the Bank of Canada Review as CANSIM Series V122515.</p> <p>Additional voluntary contributions are not permitted after January 1, 1992.</p> <p>The Company is contributing the remaining cost for current service and the cost for past service.</p> <p>The YMPE, or Year's Maximum Pensionable Earnings, refers to the maximum annual amount of earnings upon which an employee and an employer contribute to the Canada/Québec Pension Plan (C/QPP).</p>
Retirement Dates	<p>Normal Retirement Date</p> <ul style="list-style-type: none"> The normal retirement date is the first day of the month coincident with or next following the member's 65th birthday.
Normal Retirement Pension	<p>Upon normal retirement a member is entitled to an annual pension equal to 1 1/3% of the average of his best 36 months of earnings during which contributions were made up to the final average YMPE plus 2% of such best average earnings in excess of the average of the final 36 months YMPE for each year of credited service (up to a maximum of 35 years).</p>

<p>Normal Form of Pension</p>	<p>With Spouse: The normal form of pension under the Plan is a Joint and Survivor pension, payable monthly for the life of the Member. Upon the death of the member, 55% of such pension is payable to the Member's Spouse for the Spouse's lifetime, with the minimum benefit being a refund of contributions with interest. The legislated form of pension without a spousal waiver is equal to 60% of the monthly pension paid to the Member. This joint and survivor pension will be the actuarial equivalent of the Joint and Survivor 55% pension.</p> <p>Without Spouse: The normal form of pension under the Plan is a life pension payable monthly for the life of the member, with the minimum benefit being a refund of contributions with interest.</p>
<p>Early Retirement Pension</p>	<p>An early retirement pension without reduction is payable if the member has both attained age 60 and has a combined total years of age plus service of 95.</p> <p>An early retirement pension with a subsidized reduction is permissible if the member's age plus service is 85 or greater.</p> <p>The amount of the reduction is:</p> <ul style="list-style-type: none"> • if the member's years of age plus service total 95 or more – 1/4% for each month before age 60, and. • if the member's years of age plus service total less than 95 - 1/3% for each month before the earliest date at which the member could have elected unreduced retirement. <p>Early retirement is permitted after attaining age 55 with a pension that is actuarially reduced from age 65.</p>
<p>Maximum Pension</p>	<p>The total annual pension payable from the Plan upon retirement, death or termination of employment cannot exceed the lesser of:</p> <ul style="list-style-type: none"> • 2% of the average of the best three consecutive years of total compensation paid to the member by the Company, multiplied by total credited service; and • \$2,944.44 or such other maximum permitted under the Income Tax Act, multiplied by the member's total credited service.

Death Benefits

Pre-retirement: Post-1996 Service

With Spouse:

If a Member dies before the Member's pension commences, the Member's Spouse is entitled to a pension the Commuted Value of which is equal to the greater of (1) or (2) as follows:

- the Commuted Value of an immediate pension in respect of Member's Credited Service on and after January 1, 1997 equal to 55% of the Member's pension accrued at the date of death; or,
- the Commuted Value of the Member's pension accrued on and after January 1, 1997.

Minimum Death Benefit

Notwithstanding the foregoing, if a Member dies before the Member's pension commences but after becoming eligible for retirement, the death benefit payable to the Spouse will not be less than 60% of the pension accrued on and after January 1, 1997, that would have been paid to the Member pursuant to the minimum legislated form of pension benefits (determined as if the Member had retired the day before his death).

Without Spouse:

If a Member dies before the Member's pension commences and at the date of death, the Member does not have a Spouse, the death benefit payable under the Plan, in a lump sum to the Beneficiary, is equal to the Commuted Value of the pension accrued on and after January 1, 1997.

Pre-retirement: Pre-1997 Service

With Spouse

If a Member dies before the Member's pension commences, the Member's Spouse is entitled to an immediate pension in respect of Member's Credited Service prior to January 1, 1997 equal to 55% of the Member's pension accrued as at January 1, 1997.

Minimum Death Benefit

Notwithstanding the foregoing, if a Member dies before the Member's pension commences but after becoming eligible for retirement, the death benefit payable to the Spouse will not be less than 60% of the pension accrued before January 1, 1997, that would have been paid to the Member pursuant to the minimum legislated form of pension benefits (determined as if the Member had retired the day before his death).

Without Spouse

If a Member dies before the Member's pension commences and at the date of death, the Member does not have a Spouse, the death benefit payable under the Plan in a lump sum to the Beneficiary, is equal to the Member's required contributions made to the Plan before January 1, 1997, plus interest.

<p>Death Benefits</p>	<p><u>Post retirement:</u></p> <p>The normal form of payment for a member with a spouse at retirement is a joint and survivor pension with 55% of the member's pension continuing to the surviving spouse. However, the member may elect to receive an optional form of pension on an actuarial equivalent basis.</p> <p>The normal form of payment for a member without a spouse is pension payable for the member's lifetime. However, in no case shall the total of pension payments paid to the member prior to death be less than the member's accumulated contributions with interest at pension commencement.</p>
<p>Termination Benefits</p>	<p>Pension Benefit Accrued Prior to January 1, 1997</p> <p><i>Prior to Completion of 5 Years of Service</i></p> <p>A member who terminates his/her employment after December 31, 1996 but prior to completing 5 years of service will receive a refund of his/her accumulated contributions made prior to January 1, 1997 with interest.</p> <p><i>After Completion of 5 Years of Service</i></p> <p>A member terminates his/her employment after December 31, 1996 and after completing 5 years of membership service will receive the termination benefit equal to the greater of:</p> <ul style="list-style-type: none"> • 2 times his/her Pre 1997 Accumulated Member Contributions provided he/she has completed 5 years of service; and • the actuarial value of his pension benefit accrued prior to January 1, 1997. <p>The member has the choice of receiving:</p> <ul style="list-style-type: none"> • a deferred pension with respect to his pension benefit accrued before December 31, 1996; or • a refund of his/her Member Contributions and the balance of his/her termination benefit as determined above. <p>Notwithstanding the above, a member who has attained age 45 and has 10 years or more of service is entitled to either a deferred pension or a transfer to a locked-in RRSP of the value of his termination benefits, as determined above.</p>

Termination Benefits	<p><i>Pension Benefits Accrued After December 31, 1996</i></p> <p><u><i>Prior to Completion of 2 Years of Membership Service</i></u></p> <p>A member who terminates his/her employment after December 31, 1996 before completing 2 years of membership service will receive a refund of his/her accumulated contributions made after December 31, 1996 with interest ("Post 1996 Accumulated Member Contributions").</p> <p><u><i>Completion of 2 Years of Membership Service</i></u></p> <p>A member terminates his/her employment after December 31, 1996 with 2 years of membership service will receive the termination benefit equal to the greater of:</p> <ul style="list-style-type: none">• 2 times his/her Post 1996 Accumulated Member Contributions provided he/she has completed 5 years of service; and• The sum of:<ul style="list-style-type: none">- the actuarial value of his pension benefit accrued after December 31, 1996.- the excess, if any, of the Post 1996 Accumulated Member Contributions over 50% of the actuarial value of his/her pension benefit accrued after December 31, 1996 ("Excess Member Contribution"). <p>The member has the choice of receiving:</p> <ul style="list-style-type: none">• a deferred pension with respect to his pension benefit accrued after December 31, 1996 plus a refund of his/her Excess Member Contribution; or• a refund of his/her Excess Member Contributions plus a transfer of the balance of the termination benefit, as determined above, transferred to a locked-in RRSP.
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APPENDIX G

EMPLOYER CERTIFICATION

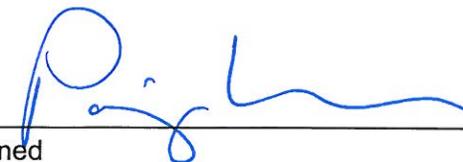
With respect to the Report on the Actuarial Valuation for Funding Purposes as at December 31, 2017 of the Newfoundland Power Inc. Retirement Income Plan, I hereby certify that, to the best of my knowledge and belief:

- The valuation reflects the terms of the Newfoundland Power Inc.'s engagement with the actuary described in Section 2 of this report, particularly the requirement to not reflect a margin for adverse deviations in the going concern valuation and the Company's decisions in regards to determining the going-concern and solvency funding requirements.
- A copy of the official plan documents and of all amendments made up to December 31, 2017 was provided to the actuary and is reflected appropriately in the summary of plan provisions contained herein.
- The asset information summarized in Appendix B is reflective of the Plan's assets.
- The membership data provided to the actuary included a complete and accurate description of every person who is entitled to benefits under the terms of the Plan for service up to December 31, 2017
- All events subsequent to December 31, 2017 that may have an impact on the Plan have been communicated to the actuary.

April 25, 2018

Date

Signed



Paige London

Name

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