

1 **Q. Please provide a copy of the actuarial review of NP’s defined benefit pension plan so**  
 2 **that all of the actuarial assumptions can be assessed. In particular provide the**  
 3 **composition of the fund in terms of equity, fixed income and other categories and**  
 4 **the assumed rates of return applied to each and the associated expected rate of**  
 5 **return on plan assets.**

6  
 7 A. Newfoundland Power’s defined benefit pension plan (the “Plan”) currently assumes an  
 8 expected return on assets of 5.75%.<sup>1</sup>

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 5.75% is shown in  
 13 Table 1.

14  
 15  
 16  
 17  
 18  
 19  
 20  
 21  
 22  
 23  
 24  
 25  
 26  
 27  
 28

**Table 1**  
**Defined Benefit Pension Plan**  
**Target Asset Mix and Expected Return**  
**2014**

	<b>Asset Mix</b>	<b>Expected Return</b>
Equities	40%	8.1%
Bonds	60%	3.5%

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

23  
 24 Newfoundland Power requested that its actuary, Mercer (Canada) Ltd. (“Mercer”),  
 25 provide the Company with an equivalent equity return to the 8.1% geometric value  
 26 expressed on an arithmetic basis. Mercer has indicated that if the 8.1% equity return  
 27 assumption used in the 5.75% overall return on assets in the Plan were expressed on an  
 28 arithmetic basis, the return assumption for equity returns in the Plan would be 9.6%.

---

<sup>1</sup> This expected long-term rate of return on plan assets is shown in Note 11 to the Company’s 2014 Annual Financial Statements filed under Attachment B to the response to Request for Information CA-NP-177.

<sup>2</sup> 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  
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 A to this response to Request for Information includes Mercer's Actuarial  
13 Valuation for Funding Purposes as at December 31, 2014 for the Plan.

14  
15 Attachment B to this response to Request for Information includes the Company's  
16 request to Mercer together with Mercer's response, related to (i) the actuarial assumed  
17 long term expected return for the Plan, and (ii) the translation of the equity return  
18 assumption from a geometric to an arithmetic return.

**Newfoundland Power Inc.**  
**Defined Benefit Pension Plan - Actuarial Valuation**  
**December 31, 2014**



# **NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2014**

MAY 2015

Newfoundland and Labrador Pension Authorities Registration Number: 75241  
Canada Revenue Agency Registration Number: 0486365

**REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2014**      **NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN****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.

# CONTENTS

1. Summary of Results.....	1
2. Introduction .....	2
3. Valuation Results – Going Concern.....	5
4. Valuation Results – Hypothetical Wind-up.....	8
5. Valuation Results – Solvency.....	10
6. Minimum Funding Requirements.....	11
7. Maximum Eligible Contributions .....	13
8. Actuarial Opinion.....	15
Appendix A: Prescribed Disclosure .....	16
Appendix B: Plan Assets .....	18
Appendix C: Methods and Assumptions – Going Concern .....	20
Appendix D: Methods and Assumptions – Hypothetical Wind-up and Solvency.....	27
Appendix E: Membership Data.....	30
Appendix F: Summary of Plan Provisions .....	34
Appendix G: Employer Certification .....	40

## 1

## Summary of Results

	31.12.2014	31.12.2011
<b>Going Concern Financial Status</b>		
Actuarial value of assets	\$352,043,000	\$271,352,000
Going concern funding target	\$319,932,000	\$264,166,000
Funding excess	\$32,111,000	\$7,186,000
<b>Hypothetical Wind-up Financial Position</b>		
Wind-up assets	\$375,096,000	\$275,138,000
Wind-up liability	\$382,074,000	\$324,602,000
Wind-up shortfall	(\$6,978,000)	(\$49,464,000)
<b>Funding Requirements in the Year Following the Valuation <sup>1</sup></b>		
Total current service cost	\$4,103,000	\$3,939,000
Estimated members' required contributions	(\$964,000)	(\$1,136,000)
Estimated employer's current service cost	\$3,139,000	\$2,803,000
Employer's current service cost as a percentage of members' pensionable earnings	13.60%	10.68%
Minimum special payments	\$7,046,111	\$10,683,192
Estimated minimum employer contribution	\$10,185,111	\$13,486,000
Estimated maximum eligible employer contribution	\$10,185,111	\$52,267,000
Next required valuation date	December 31, 2017	December 31, 2014

<sup>1</sup> 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.

# 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, 2014. 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, 2014 on going concern, hypothetical wind-up and solvency bases
- The minimum required funding contributions from 2015, in accordance with the Pension Benefits Act (Newfoundland and Labrador)
- The maximum permissible funding contributions from 2015, in accordance with the Income Tax Act

The information contained in this report was prepared for the internal use of 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, 2017, or as at the date of an earlier amendment to the Plan.



## Terms of Engagement

In accordance with our terms of engagement with 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, 2011

### *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, 2014. The Plan has been amended and restated October 1<sup>st</sup>, 2014 to clarify administrative practices and to incorporate changes required under the Pension Benefits Act (Newfoundland and Labrador) and the Income Tax Act. 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:	5.25%	6.00%
Interest on employee contributions:	5.25%	6.00%
Inflation:	2.00%	2.50%
ITA limit / YMPE increases:	3.00%	3.50%
Pensionable earnings increases:	3.50%	4.00%
Mortality rates:	CPM2014 Private Sector Mortality Table (CPM2014Priv)	100% of the rates of the Uninsured Pensioners 1994 table (UP94)
Mortality improvements:	Fully generational using scale CPM-B	Fully generational using scale AA

The hypothetical wind-up and solvency assumptions have been updated to reflect market conditions at the valuation date.

A summary of the going concern methods and assumptions is provided in Appendix C. A summary of the hypothetical wind-up and solvency methods and assumptions is provided in Appendix D.

### ***Regulatory Environment and Actuarial Standards***

The Newfoundland and Labrador Pension Benefits Act ("The Act") Regulations have been amended to incorporate the federal investment regulations, effective March 8, 2013.

### **CIA Transfer Value**

On December 4, 2014, the Actuarial Standards Board has issued a memorandum on the promulgation of the mortality table referenced in the Canadian Institute of Actuaries Standards of Practice for Pension Plans in respect of the computation of pension commuted values ("CIA CV Standard") for calculations from August 1, 2015. The proposed 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 proposed change in the CIA CV Standard is not reflected in this actuarial valuation.

### **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 of the assets in the pension fund are available to meet all of the claims on the Plan. We are not in a position to assess the impact that the Ontario Court of Appeal's decision in *Aegon Canada Inc. and Transamerica Life Canada versus ING Canada Inc.* or similar decisions in other jurisdictions might have on the validity of this assumption.

We have assumed that all the Plan's assets are available to cover the Plan's liabilities presented in this report.

## 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:

	31.12.2014	31.12.2011
<b>Assets</b>		
Market value of assets	\$375,346,000	\$275,368,000
Asset smoothing adjustment	(\$23,303,000)	(\$4,016,000)
Smoothed value of assets	\$352,043,000	\$271,352,000
<b>Going concern funding target</b>		
• Active members	\$158,268,000	\$148,285,000
• Pensioners and survivors	\$160,187,000	\$115,608,000
• Deferred pensioners	\$248,000	\$273,000
• Pending Settlement	\$1,229,000	\$0
Total	\$319,932,000	\$264,166,000
Funding excess	\$32,111,000	\$7,186,000

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 as at previous valuation		\$7,186,000
Interest on funding excess at 6.00% per year		\$1,373,000
Employer's special payments, with interest		\$35,554,000
Expected funding excess		\$44,113,000
Net experience gains (losses)		
• Net Investment return	\$25,552,000 <sup>2</sup>	
• Increases in pensionable earnings	(\$1,426,000)	
• Increase in YMPE	(\$1,116,000)	
• Increase in maximum pension	\$185,000	
• Mortality	(\$363,000)	
• Retirement	(\$3,602,000)	
• Termination	\$622,000	
• Disability	\$571,000	
Total experience gains (losses)	\$20,423,000	\$20,423,000
Impact of assumptions changes		
• Discount rate	(\$28,565,000)	
• Mortality	(\$8,577,000)	
• Inflation related assumptions	\$3,747,000	
Total assumption gains (losses)	(\$33,395,000)	(\$33,395,000)
Data Corrections		\$705,000
Net impact of other elements of gains and losses		\$265,000
Funding excess as at current valuation		\$32,111,000

## 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.

<sup>2</sup> Investment income return gain (loss) is based on the smoothed valued of assets

**REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2014**      **NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN**

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

	2015	2012
Total current service cost	\$4,103,000	\$3,939,000
Estimated members' required contributions	(\$964,000)	(\$1,136,000)
Estimated employer's current service cost	\$3,139,000	\$2,803,000
Employer's current service cost expressed as a percentage of members' pensionable earnings <sup>3</sup>	13.60%	10.68%

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	10.68%
Demographic changes	0.76%
Changes in assumptions	2.16%
Employer's current service cost as at current valuation	13.60%

### Discount Rate Sensitivity

The following table summarizes the effect on the going concern funding target shown in this report of using a discount rate which is 1.00% lower than that used in the valuation:

Scenario	Valuation Basis	Reduce Discount Rate by 1%
<b>Going concern funding target</b>	\$319,932,000	\$365,682,000
<b>Current service cost</b>		
• Total current service cost	\$4,103,000	\$4,996,000
• Estimated members' required contributions	(\$964,000)	(\$964,000)
• Estimated employer's current service cost	\$3,139,000	\$4,032,000

<sup>3</sup> 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 producing the maximum wind-up liabilities on the valuation date.

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

	31.12.2014	31.12.2011
<b>Assets</b>		
Market value of assets	\$375,346,000	\$275,368,000
Termination expense provision	(\$250,000)	(\$230,000)
Wind-up assets	\$375,096,000	\$275,138,000
<b>Present value of accrued benefits for:</b>		
• Active members	\$182,400,000	\$176,164,000
• Pensioners and survivors	\$198,001,000	\$147,916,000
• Deferred pensioners	\$444,000	\$522,000
• Pending Settlement	\$1,229,000	\$0
Total wind-up liability	\$382,074,000	\$324,602,000
Wind-up shortfall	(\$6,978,000)	(\$49,464,000)

## Wind-up Incremental Cost to December 31, 2017

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:

	31.12.2014	31.12.2011
Number of years covered by report	3 years	3 years
Total hypothetical wind-up liabilities at the valuation date (A)	\$382,074,000	\$324,602,000
Present value of projected hypothetical wind-up liability at the next required valuation (including expected new entrants) plus benefit payments until the next required valuation (B)	\$418,178,000	\$366,028,000
Hypothetical wind-up incremental cost (B – A)	\$36,104,000	\$41,426,000

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	\$382,074,000	\$439,328,000

# 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 98.2% compared to 84.8% 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 a 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 \$8,619,000.



# 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.

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:

Employer's contribution rule				Estimated employer's contributions	
Period beginning	Monthly current service cost <sup>4</sup>	Explicit monthly expense allowance	Minimum monthly special payments	Monthly current service cost including expense allowance	Total minimum monthly contributions
January 1, 2015	13.60%	N/A	\$890,266	\$261,583	\$1,151,849
August 1, 2015	13.60%	N/A	\$814,249	\$261,583	\$1,075,832
September 1, 2015	13.60%	N/A	\$0	\$261,583	\$261,583
January 1, 2016	13.60%	N/A	\$0	\$270,739	\$270,739
January 1, 2017	13.60%	N/A	\$0	\$280,215	\$280,215

The estimated contribution amounts above are based on projected members' pensionable earnings. Therefore, the actual employer's current service cost will be different from the above estimates and, as such, the contribution requirements should be monitored closely to ensure contributions are made in accordance with the Act.

The development of the minimum special payments is summarized in Appendix A.

## 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.

<sup>4</sup> Expressed as a percentage of members' pensionable earnings.

### ***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 no later than 30 days after the quarter 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 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. The solvency ratio shown in this report 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

The Company is permitted to fully fund the greater of the going concern and hypothetical wind-up shortfalls; \$6,978,000, as well as make current service cost contributions \$3,139,000. The portion of this contribution representing the payment of the hypothetical wind-up shortfall can be increased with interest at 2.65% per year from the valuation date to the date the payment is made, and must be reduced by the amount of any deficit funding made from the valuation date to the date the payment is made.

**REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2014**      **NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN**

Assuming the Company contributes the greater of the going concern and hypothetical wind-up shortfall of \$6,978,000 as of the valuation date, the rule for determining the estimated maximum eligible annual contributions, as well as an estimate of the maximum eligible contributions until the next valuation, are as follows:

<b>Employer's contribution rule</b>				<b>Estimated employer's contributions</b>
<b>Year beginning</b>	<b>Monthly current service cost<sup>5</sup></b>	<b>Monthly expense allowance</b>	<b>Deficit Funding</b>	<b>Monthly current service cost including expense allowance</b>
January 1, 2015	13.60%	N/A	N/A	\$261,583
January 1, 2016	13.60%	N/A	N/A	\$270,739
January 1, 2017	13.60%	N/A	N/A	\$280,215

The employer's current service cost in the above table was estimated based on projected members' pensionable earnings. The actual employer's current service cost will be different from these estimates and, as such, the contribution requirements should be monitored closely to ensure compliance with the ITA.

<sup>5</sup> Expressed as a percentage of members' pensionable earnings.

# 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)*.



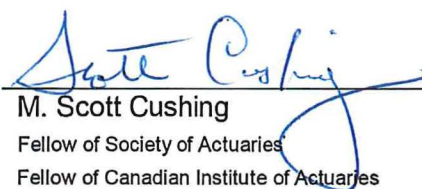
---

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

May 25, 2015

---

Date



---

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

May 25, 2015

---

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.	98.2%
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. <sup>6</sup>	\$375,096,000
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.	\$382,074,000

### 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, 2017.

---

<sup>6</sup> 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

Based on the results of this valuation, the Plan is fully funded on a going concern basis. The Plan was fully funded on a going concern basis at the last valuation as at December 31, 2011. Therefore there are no special payments required to fund any going concern deficit.

Based on the results of this valuation, the Plan is not fully funded on a solvency basis. However, the present value of the previously scheduled solvency payments exceeds the solvency deficit. In accordance with the Act, we have reduced the period of the monthly special payment of \$890,266 from December 31, 2016 to July 31, 2015, and determined the final special payment for August 2015 to be \$814,249.

As such, special payments must be made as follows:

Type of payment	Start date	End date	Monthly Special Payment	Present Value	
				Going Concern Basis <sup>7</sup>	Solvency Basis <sup>8</sup>
Solvency	December 31, 2011	July 31, 2015	\$890,266		\$6,177,800
Solvency	July 31, 2015	August 31, 2015	\$814,249		\$800,200
<b>Total</b>					<b>\$6,978,000</b>

<sup>7</sup> Calculation only considers going concern special payments and is based on a going concern discount rate.

<sup>8</sup> Calculation considers both solvency and going concern special payments (five years only) and is based on the average solvency discount rate.

## 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, 2011 to December 31, 2014. 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:

	2012	2013	2014
January 1	\$276,264,000	\$298,372,000	\$324,664,000
PLUS			
Members' contributions	\$1,105,000	\$1,021,000	\$978,000
Company's contributions	\$2,803,000	\$2,916,000	\$3,033,000
Company's past service contributions	\$10,835,000	\$10,875,000	\$10,831,000
Investment income	\$21,221,000	\$26,077,000	\$50,927,000
	\$35,964,000	\$40,889,000	\$65,769,000
LESS			
Pensions paid	\$11,996,000	\$12,938,000	\$13,741,000
Lump-sum refunds	\$1,503,000	\$1,261,000	\$974,000
Administration fees	\$357,000	\$398,000	\$372,000
	\$13,856,000	\$14,597,000	\$15,087,000
December 31	\$298,372,000	\$324,664,000	\$375,346,000
Rate of return net of expenses	7.54%	8.60%	15.57%



REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2014      NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN

The market value of assets shown in the above table is adjusted to reflect in-transit amounts as follows:

	Current Valuation	Previous Valuation
Market value of invested assets	\$375,346,000	\$276,264,000
In-transit amounts		
• Members' contributions	\$0	\$0
• Company's contributions	\$0	\$0
• Expenses	\$0	\$0
• Benefit payments	\$0	(\$896,000)
Market value of assets adjusted for in-transit amounts	\$375,346,000	\$275,368,000

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. The most recent policy statement is dated October 28, 2014. 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.

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, 2014
	Minimum	Target <sup>9</sup>	Maximum	
Domestic Equities	15%	20%	25%	30%
US Equities	10%	15%	20%	16%
International Equities	0%	5%	10%	5%
Fixed Income	55%	60%	65%	49%
		100%		100%

<sup>9</sup> This is the target asset mix for December 31, 2020

## 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, 2014 recognizes the following percentages of the investment gains (losses) that arose during the past years:

	Recognized	Deferred
2012 and before:	100%	0%
2013:	67%	33%
2014:	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 actuarial value will tend to be lower than the market value.

The actuarial value of the assets, determined as at December 31, 2014 under the adjusted market value method, is \$352,043,000.

This value was derived as follows:

Smoothed Value of Assets as at 31.12.14		
Market value of assets		\$375,346,000
LESS		
Unrecognized investment gains/(losses)	2013: \$7,758,000 x 33% =	\$2,586,000
	2014: \$31,075,000 x 67% =	\$20,717,000
		\$23,303,000
Actuarial value of assets		\$352,043,000

REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2014 NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN

The smoothed value of assets shown in the above table is adjusted to reflect in-transit amounts as follows:

	Current Valuation	Previous Valuation
Smoothed value of assets	\$352,043,000	\$272,248,000
In-transit amounts		
• Members' contributions	\$0	\$0
• Company's contributions	\$0	\$0
• Expenses	\$0	\$0
• Benefit payments	\$0	(\$896,000)
Smoothed value of assets, adjusted for in-transit amounts	\$352,043,000	\$271,352,000

## **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:	5.25%	6.00%
Inflation:	2.00%	2.50%
ITA limit / YMPE increases:	3.00%	3.50%
Pensionable earnings increases:	3.50% <sup>10</sup>	4.00% <sup>11</sup>
Post retirement pension increases:	None	None
Interest on employee contributions:	5.25%	6.00%
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:	CPM2014 Private Sector Mortality Table (CPM2014Priv)	100% of the rates of the Uninsured Pensioners 1994 table (UP94)
Mortality improvements:	Fully generational using scale CPM-B	Fully generational using scale AA
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

<sup>10</sup> 0.00% increase in Pensionable earnings assumed for disabled members

<sup>11</sup> 0.00% increase in Pensionable earnings assumed for disabled members

## 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 2014 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 years
- Implicit provision for non-investment expenses approximately 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	5.40%
Investment expense provision	(0.05%)
Non-Investment expense provision	(0.10%)
Margin for adverse deviations	(0.00%)
Net discount rate	5.25%

---

### 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 Private Sector mortality rates 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. The mortality improvement scale published in the CPM study represents one reasonable outlook for future improvement. We have used the CPM mortality improvement scale B without adjustment.

Based on the assumption used, the life expectancy of a member age 65 at the valuation date is 21.4 years for males and 23.9 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 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, 2014.

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, 2014 and December 30, 2015*.

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

REPORT ON THE ACTUARIAL VALUATION FOR FUNDING NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN  
PURPOSES AS AT DECEMBER 31, 2014

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:	UP94 generational with projection scale AA (sex distinct)
Interest rate:	2.50% per year for 10 years, 3.80% per year thereafter

---

**Basis for Benefits Assumed to be Settled through the Purchase of an Annuity**

Mortality rates:	UP94 generational with projection scale AA (sex distinct)
Interest rate:	2.70% per year based on a duration of 12.5 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**

Special payments	Discounted at the average interest rate of 2.65% per year
Final average earnings:	Based on actual pensionable earnings over the averaging period
Family composition:	Same as for going concern valuation
Maximum pension limit:	\$2,818.89 for 2015 and increasing at 2.21% per year for 9 years starting in 2016, 3.18% 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.

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 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**

### ***Hypothetical wind-up and solvency are the same***

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, 2014, 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.

REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2014      NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN

	31.12.2014	31.12.2011
<b>Active Members</b>		
Number	328	438
Total pensionable earnings for the following year	\$28,587,277	\$33,302,514
Average pensionable earnings for the following year	\$87,156	\$76,033
Average years of pensionable service	27.8 years	26.8 years
Average age	53.6	52.1
Accumulated contributions with interest	\$23,504,304	\$27,589,742
<b>Disabled Members</b>		
Number	34	28
Total pensionable earnings for the following year	\$2,160,645	\$1,153,227
Average pensionable earnings for the following year	\$63,548	\$54,401
Average years of pensionable service	31.7 years	30.0 years
Average age	56.8	57.0
Accumulated contributions with interest	\$1,785,169	\$1,295,094
<b>Deferred Pensioners</b>		
Number	1	4
Total annual pension	\$*	\$59,236
Average annual pension	\$*	\$14,809
Average age	39.5	43.9
<b>Pending</b>		
Number	5	0
Average Age	51.2	N/A
<b>Pensioners and Survivors</b>		
Number	718	661
Total annual lifetime pension	\$12,129,885	\$9,526,678
Total annual temporary pension	\$2,312,592	2,332,787
Average annual lifetime pension	\$16,894	\$14,413
Average age	71.5	70.7

*\*suppressed for confidentiality*

REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2014 NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN

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

	Active Members	Disabled Members	Deferred Vested	Pending Settlement	Pensioners	Survivors	Total
<b>Total at 31.12.2011</b>	<b>438</b>	<b>28</b>	<b>4</b>	<b>0</b>	<b>515</b>	<b>146</b>	<b>1,131</b>
To disabled	(20)	20					0
Return to Active	4	(4)					0
Terminations:							
• Transfers/lump sums	(3)		(1)	(1)			(5)
• Deferred pensions	(1)		1				0
• Pending Settlement	(2)		(3)	5			0
Deaths	(5)			1	(37)	(18)	(59)
Retirements	(83)	(10)			93		0
Beneficiaries						19	19
Data correction					(4)	4	0
<b>Total at 31.12.2014</b>	<b>328</b>	<b>34</b>	<b>1</b>	<b>5</b>	<b>567</b>	<b>151</b>	<b>1,086</b>

The distribution of the active members by age and pensionable service as at December 31, 2014 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			4	3					7
40 to 44			7	8	1				16
45 to 49			8	17	22	18	1		66
50 to 54			2	8	7	42	26	1	86
55 to 59			2	8	8	18	39	39	114
60 to 64				1	6	11	5	16	39
65 +									
<b>Total</b>			<b>23</b>	<b>45</b>	<b>44</b>	<b>89</b>	<b>71</b>	<b>56</b>	<b>328</b>

REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT DECEMBER 31, 2014      NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN

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 Lifetime Pension	Number	Average Lifetime Pension	Average Temporary Pension
< 45	1	\$*			
45 – 49					
50 – 54			1	\$*	1
55 – 59			28	\$26,130	23
60 – 64			154	\$26,243	115
65 – 69			172	\$16,831	
70 – 74			117	\$13,142	
75 – 79			122	\$12,446	
80 – 84			64	\$12,512	
85 – 89			43	\$8,363	
90 – 94			15	\$14,280	
95 – 99			1	\$*	
100 +			1	\$*	
<b>Total</b>	<b>1</b>	<b>\$*</b>	<b>718</b>	<b>\$16,894</b>	<b>142</b>

*\*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, 2014. Since the previous valuation, the Plan has been amended and restated October 1<sup>st</sup>, 2014 to clarify administrative practices and to incorporate changes required under the Pension Benefits Act (Newfoundland and Labrador) and the Income Tax Act.



REPORT ON THE ACTUARIAL VALUATION FOR FUNDING NEWFOUNDLAND POWER INC. RETIREMENT INCOME PLAN  
PURPOSES AS AT DECEMBER 31, 2014

<b>Background</b>	<p>The Plan became effective April 1, 1984. Effective May 1, 2004, the plan was closed to new entrants.</p>
<b>Eligibility for membership</b>	<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>
<b>Employee Contributions</b>	<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 required 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>
<b>Retirement Dates</b>	<p>Normal Retirement Date</p> <ul style="list-style-type: none"> <li>• The normal retirement date is the first day of the month coincident with or next following the member's 65th birthday.</li> </ul>
<b>Normal Retirement Pension</b>	<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>

<b>Normal Form of Pension</b>	<p><b>With Spouse:</b> 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 of 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><b>Without Spouse:</b> 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>
<b>Early Retirement Pension</b>	<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. The amount of the reduction is:</p> <ol style="list-style-type: none"> <li>1. if the member's total years of age plus service total 95 or more – 1/4% for each month before age 60, and.</li> <li>2. if the member's total 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.</li> </ol> <p>Early retirement is permitted after attaining age 55 with a pension that is actuarially reduced from age 65.</p>
<b>Maximum Pension</b>	<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"> <li>• 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</li> <li>• \$2818.89 or such other maximum permitted under the <i>Income Tax Act</i>, multiplied by the member's total credited service.</li> </ul>

**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:

- (1) 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,
- (2) 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.

---

---

**Death Benefits**

**Post retirement:**

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.

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.

---

**Termination Benefits**

***Pension Benefit Accrued Prior to January 1, 1997***

*Prior to Completion of 5 Years of Service*

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.

*After Completion of 5 Years of Service*

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:

- 2 times his/her Post 96 Accumulated Member Contributions provided he/she has completed 5 years of service; and
- the actuarial value of his pension benefit accrued after December 31, 1996.

The member has the choice of receiving:

- 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.

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.

---

**Termination  
Benefits**

***Pension Benefits Accrued After December 31, 1996***

*Prior to Completion of 2 Years of Membership Service*

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 96 Accumulated Member Contributions").

*Completion of 2 Years of Membership Service*

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:

- 2 times his/her Post 96 Accumulated Member Contributions provided he/she has completed 5 years of service; and
- the sum of:
  - the actuarial value of his pension benefit accrued after December 31, 1996.
  - the excess, if any, of the Post 96 Accumulated Member Contributions over 50% of the actuarial value of his/her pension benefit accrued after December 31, 1996 ("Excess Member Contribution").

The member has the choice of receiving:

- 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.
-

## APPENDIX G

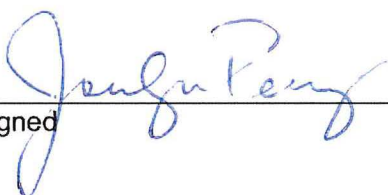
---

### Employer Certification

With respect to the Report on the Actuarial Valuation for Funding Purposes as at December 31, 2014 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, 2014 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, 2014.
- All events subsequent to December 31, 2014 that may have an impact on the Plan have been communicated to the actuary.

May 21, 2015  
Date

  
Signed

Jocelyn Perry  
Name



Mercer (Canada) Limited  
161 Bay Street, P.O. Box 501  
Toronto, Ontario M5J 2S5  
+1 416 868 2000

**Correspondance with Mercer (Canada) Ltd.**



December 8<sup>th</sup>, 2015

Mr. Scott Cushing  
Principal  
Mercer  
120 Bremner Boulevard, Suite 800  
Toronto, ON M5J 0A8

Dear Scott,

As discussed, please provide a breakdown of Newfoundland Power's 5.75% long term expected return on its defined benefit pension plan assets as at December 31, 2014. The analysis should include the expected return for both equity and fixed income investments as well as the target asset mix assumed in the determination of the long term rate of return.

In addition, please provide the Company with an equivalent equity return on an arithmetic basis that compares with the equity return on a geometric basis as included in the 5.75% long term expected return.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Jocelyn Perry  
VP Finance & Chief Financial Officer



**Scott Cushing**  
Principal

120 Bremner Boulevard, Suite 800  
Toronto, Ontario M5J 0A8  
+1 416 868 2504  
Fax +1 416 868 7555  
scott.cushing@mercer.com  
www.mercer.ca

**Private & Confidential**

Jocelyn Perry  
Vice President, Finance & Chief Financial Officer  
Newfoundland Power Inc.  
P.O. Box 8910  
55 Kenmount Road  
St. John's, Newfoundland A1B 3P6  
Canada

10 December 2015

**Subject:** Expected Return on Pension Plan Assets

Dear Jocelyn:

As requested in your letter of December 8, 2015, the table below shows the development of Newfoundland Power's long term expected return on its defined benefit pension assets as at December 31, 2014:

Asset Class	Target Asset Mix	Geometric Expected Return	Weighted Average Return
Equities	40%	8.10%	3.24%
Bonds	60%	3.50%	2.10%
			5.34%
		Diversification adjustment	0.53%
		Expenses	(0.15%)
			5.72%

(5.75% after rounding)

If the 8.10% geometric expected return on equities, shown in the table above, were expressed on an arithmetic basis, the equivalent return expectation would be 9.60%.

Sincerely,

Scott Cushing  
Principal

I:\nfld\_pwr\2015\correspondence\letters and memos\12 december\jocelyn perry - december 10 2015.docx