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BEFORE THE ADDITIONAL FACILITY OF THE

INTERNATIONAL CENTRE FOR SETTLEMENT OF INVESTMENT DISPUTES

ICSID CASE NO. ARB (AF)/12/3

MERCER INTERNATIONAL, INC.,

CLAIMANT

v.

GOVERNMENT OF CANADA,

RESPONDENT

SECOND EXPERT REPORT OF BRENT C. KACZMAREK, CFA

NAVIGANT CONSULTING, INC.

1200 NINETEENTH STREET NW, SUITE 700

WASHINGTON, DC 20036

16 DECEMBER 2014

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I. Scope of Work and Qualifications

1. Navigant Consulting, Inc. has been asked by Arnold & Porter, LLP ("Counsel") to prepare this expert reply report in connection with the arbitration proceedings commenced by Mercer International, Inc., ("Mercer" or "Claimant") against the Government of Canada ("Canada" or "Respondent") pursuant to Chapter 11 of the North American Free Trade Agreement ("NAFTA"). As noted in our first report, Mercer's subject investment is its wholly-owned Canadian subsidiary, Zellstoff Celgar Ltd. and its interest in a Canadian limited partnership, Zellstoff Celgar Limited Partnership (collectively, "Celgar"). The limited partnership's general partner is Zellstoff Celgar Limited, which owns 0.1 percent of the partnership units, and its limited partner is Mercer, owning 99.9 percent of the partnership units.[1] Celgar owns and operates the assets of the Celgar Mill, a northern bleached softwood kraft ("NBSK") pulp mill in Castlegar, British Columbia with a capacity of 520,000 air-dried metric tons ("ADMT") per year.[2]

2. Celgar has been permitted to sell its self-generated electricity in excess of its electricity consumption (i.e., its load). Celgar also has sought to sell its self-generated electricity below its load, but has been prevented from doing so by acts of the BC Hydro and Power Authority ("BC Hydro"), a Crown corporation owned and controlled by the Province, and the British Columbia Utilities Commission ("BCUC"), the Province's public utility regulatory agency. These acts (the "Measures") contain two components.

3. First, Mercer alleges that BCUC Order G-48-09, which came into effect on 6 May 2009, applied a "net-of-load" standard to Celgar. BCUC Order G-48-09 prevented FortisBC from supplying electricity to customers that were selling their self-generated electricity. Specifically, BCUC Order G-48-09 prevented FortisBC from selling any electricity purchased from BC Hydro under the parties' 1993 power purchase agreement (the "1993 BC Hydro-FortisBC PPA") while the self-generator was selling electricity. As FortisBC's generation and electricity purchases are commingled into a single resource stack, the practical impact of BCUC Order G-48-09 is that FortisBC is prevented from selling any electricity to self-generators that are selling their self-generated electricity (e.g., Celgar). The application of a net-of-load standard on Celgar frustrated the implementation of an August 2008 power supply agreement between FortisBC and

[1] Zellstoff Celgar LP, 2013 Audited Financial Statements, p. 5 **(NAV-61)**
[2] Mercer 2013 10-K, p.5 **(NAV-01)**

Celgar (the "FortisBC PSA"). Under the FortisBC PSA, Celgar could have purchased electricity up to its entire load at embedded-cost rates from FortisBC while selling its self-generated electricity.

4. Second, Mercer alleges that BC Hydro imposed a similar "net-of-load" standard on Celgar through Celgar's electricity purchase agreement ("EPA") with BC Hydro ("BC Hydro EPA"). The BC Hydro EPA, dated 27 January 2009 and approved by the BCUC on 31 July 2009, set the generator baseline ("GBL") that delineates Celgar's self-supply obligation at 349 gigawatt-hours per year ("GWh/year"), an amount equal to Celgar's 2007 load. The GBL and its related contractual "exclusivity" provisions prevent Celgar from selling any self-generated electricity below its GBL to third parties. Celgar can only sell its self-generated electricity above its GBL (set at its 2007 load).

5. Mercer alleges the Measures, together and separately, prohibit Celgar from selling its self-generated electricity below its 2007 load of 349 GWh/year.[3]

6. Counsel has asked us to determine Mercer's historical lost profits and the diminution in the value of Mercer's investment in Celgar as a result of the Measures. In our first expert report, we measured Mercer's historical lost cash flows from its investment in Celgar as well as the diminution in value of Mercer's investment in Celgar as a result of the Measures under a variety of alternative GBL scenarios tied to BC's treatment of other pulp mills or under various standards that BC had articulated. Accordingly, we calculated that the Measures resulted in total historical lost cash flows of between C$ 17 million and C$ 79 million and the diminution in Celgar's fair market value of C$ 44 million to C$ 153 million as of 31 December 2013.[4] We also calculated pre-award interest on the historical cash flows at two interest rates through 31 December 2013. With interest, we calculated total damages to be between C$ 62 million and C$ 243 million.[5]

7. Respondent has retained Dr. Michael Rosenzweig of NERA Economic Consulting ("Dr. Rosenzweig") as its economic and damages expert. Counsel has asked us to review and comment on Dr. Rosenzweig's expert report. It is apparent from Dr. Rosenzweig's report that the scope of his expert opinion covers areas beyond the scope of ours. Indeed, it appears that Dr.

[3] Claimant's Memorial, ¶ 6
[4] Navigant Expert Report, ¶ 22
[5] Navigant Expert Report, Table 3

Rosenzweig opines that: 1) Celgar was not and is not being treated differently than other pulp mills, 2) the Measures are not a breach of the NAFTA, 3) Mercer has not been damaged, 4) Mercer deserves no compensation, and, in any event, 5) our calculation of Mercer's loss contains some errors. Given the broad scope of Dr. Rosenzweig's opinions in this arbitration, we only address those portions of his opinion in this reply report that are relevant to our scope of opinion.

8. Nothing in our conclusions or opinions stated herein is intended to address the parties' respective legal arguments. This report does not contain any opinions on matters of law that would require legal expertise.

9. The list of documents that we relied upon in preparing this report is provided as Appendix 1. If additional documents or facts come to our attention which might have a bearing on the quantum of any claim, we reserve the right to modify our independent calculations.

10. This report is divided into six sections, including this introductory section. Section II is an executive summary that outlines our overall conclusions with respect to Mercer's damages. Section III presents our review of Dr. Rosenzweig's general comments on our damages calculation. Section IV presents our review of Dr. Rosenzweig's quantitative comments on our damages calculation. Section V presents our views on Dr. Rosenzweig's comments surrounding Mercer's subsidies received from Respondent through the Pulp and Paper Green Transformation Program ("PPGTP"). Finally, in Section VI, we present our revised damages calculation, which we have updated to 30 June 2014.

II. Executive Summary

11. The essential opinions presented by Dr. Rosenzweig in his expert report and those of Respondent in its Counter-Memorial can be summarized in three categories.

12. First, Dr. Rosenzweig and Respondent rely upon regulatory issues governing the power production sector to justify the Measures. For example, they claim lower GBLs are justifiable for other NBSK pulp mills because those mills are less efficient, would otherwise shut down more frequently, and would produce less green energy. Even if this could be considered a valid policy from a regulated power perspective, neither Dr. Rosenzweig nor Respondent consider how such differential treatment affects the mills from a competitive perspective in the production of NBSK pulp. As discussed in this report, the differential treatment of the mills via their GBLs (and thus the amount of below load electricity they are able to sell at market prices) has a significant impact on the competitive landscape for Celgar in the production of NBSK pulp.

13. Second, Dr. Rosenzweig and Respondent state that our damages analysis is speculative because it relies on allegedly unknown power sales prices, power purchase prices, access to transmission, and the duration at which Celgar could sell its self-generated electricity at prices above embedded cost utility power. While we believe all of these factors can be reliably quantified, these variables could only be deemed speculative because the Measures have prevented these variables from being directly observable. Thus, Respondent should not be able to use its allegedly wrongful Measures as an argument against the quantification of the damages caused by them. Moreover, if it is speculative to assume that Celgar could otherwise sell its below load electricity production at higher prices than embedded cost power, BCUC Order G-48-09 and BC Hydro's GBL would have no economic or commercial purpose. Indeed, Dr. Rosenzweig contradicts himself when he says our damages calculations are speculative when he elsewhere states that the Measures prevent BC Hydro ratepayers from being harmed.

14. Third, Dr. Rosenzweig purports to identify some errors or flaws in our damages calculations. Where we agree our model contains an error, we have corrected the calculations in this report. Overall, the impact of these corrected errors results in a minor downward adjustment to our damages calculations. However, we disagree with most of the errors identified by Dr. Rosenzweig. For example, one of the more significant flaws in our damages calculation alleged by Dr. Rosenzweig is our assumption that damages will continue into perpetuity. While all available information and data indicate that this assumption is entirely valid, any award of financial compensation that is based on future losses can be remedied (or effectively paid) by removing the Measures. In lieu of Respondent offering restitution for future losses, a computation of financial compensation to perpetuity is economically justified.

15. In Table 1 below, we show our revised calculations of damages under various GBLs.

Table 1 - Total Lost Profits and Diminution in Value of Celgar as a Result of the Measures with Interest to 30 June 2014 (C$ millions)[6]

Damages Scenario	Celgar's Adj. Generator Baseline (GWh)	Historical Lost Cash Flows (C$ mln)	Diminution in Value (C$ mln)	Pre-Award Interest (C$ mln)		Total Damages With Interest (C$ mln)	
				20-Year Bond	Prime + 2%	20-Year Bond	Prime + 2%
	[A]	[B]	[C]	[D]	[E]	[F]=B+C+D	[G]=B+C+E
No Load Displacement Obligation and/or Comparable to Skookumchuck Mill's 1997 EPA	0 0	[redacted]	[redacted]	$ 9	$ 17	**$ 234**	**$ 242**
Comparable to Tolko Industries Ltd.'s GBL	148.7	[redacted]	[redacted]	5	10	**142**	**147**
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Celgar's 2001 generation-to-load (Order G-38-01)	186.1	[redacted]	[redacted]	4	8	**116**	**120**
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Celgar's 2002 generation-to-load (2003 Heritage Contract)	220.0	[redacted]	[redacted]	3	6	**92**	**95**
Celgar's avg. 1994-2006 generation-to-load (Ministers' Order)	249.7	[redacted]	[redacted]	2	5	**71**	**73**
Celgar's 2006 generation-to-load (BC Hydro EPA)	268.2	[redacted]	[redacted]	2	4	**58**	**60**
Celgar's avg. 2005 & 2006 generation-to-load (Before Project Blue Goose)	271.1	[redacted]	[redacted]	2	4	**56**	**57**
Celgar's 2007 generation-to-load (BC Hydro EPA)	326.7	[redacted]	[redacted]	0	1	**15**	**15**

III. Dr. Rosenzweig's General Comments on Our Damages Calculations

16. In our first report (as in this second report), we were engaged to calculate the damages associated with the Measures. As the Measures have the same practical impact on Celgar together and separately,[7] we constructed only one But-For Scenario to calculate Mercer's historical and future cash flows and the fair market value of Mercer's investment in Celgar as of 31 December 2013 absent the Measures. To calculate damages, we subtracted the cash flows measured under the Actual Scenario from the cash flows measured under the But-For Scenario.

[6] See Appendix 3, Summary of Damages.

[7] BCUC Order G-48-09 indirectly prevents Celgar from selling its below load self-generation because it cannot access replacement power as FortisBC is prevented from selling embedded-cost utility electricity that includes BC Hydro PPA electricity to self-generators that are selling electricity below their load. Similarly, the BC Hydro EPA's GBL of 349 GWh/year (set at Celgar's 2007 load) and its exclusivity provisions prevent Celgar from selling electricity below the assigned GBL to third parties. BCUC Order G-48-09 and the BC Hydro EPA's GBL (together and separately) have the same effective impact of holding Celgar to a "net-of-2007-load" standard by preventing it from selling 349 GWh/year of its self-generated electricity.

17. In developing our But-For Scenario, Counsel asked us to consider a variety of alternative GBLs based on the treatment BC afforded to others, as well as under standards Respondent itself articulates. In the case of the treatment afforded by BC to others, we adjust Celgar's GBL to the "Below Load Access Percentage" of competing mills as identified by Mr. Elroy Switlishoff (i.e., assuming that Celgar is afforded the same percentage access to embedded-cost utility power relative to its load as BC has given to others). Specifically, in our first report we were asked to assume the following potential scenarios in Table 2 below.

Table 2 – First Report Damages Scenarios[8]

Damages Scenario	Celgar's Adj. Generator Baseline (GWh)
No Load Displacement Obligation and/or Comparable to Skookumchuck Mill's 1997 EPA	0.0
[redacted]	
Celgar's 2001 generation-to-load (Order G-38-01)	186.1
[redacted]	
Celgar's 2002 generation-to-load (2003 Heritage Contract)	200.0
Celgar's avg. 2005 & 2006 generation-to-load (Before Project Blue Goose)	271.0

[8] See Navigant Expert Report Table 1. As we will explain in Section VI below, in this second report, we have abandoned the damages scenario assuming a GBL of << [redacted] >> GWh/year based on a Below Load Access Percentage of << [redacted] >> percent (comparable to Skookumchuck Mill's "shaped" GBL) at the instruction of Counsel. In this second report, we have also corrected Celgar's 2002 generation-to-load to reflect 220.022 GWh/year. Finally, we also assume four additional alternative GBL damages scenarios alternative GBLs based on Celgar's 2006 and 2007 "Generation-to-Load" levels, the treatment afforded Tolko Industries' Kelowna sawmill, and the BC Ministers' Order. Celgar's generation-to-load is equal to the amount of its mill load supplied by self-generation. This is calculated as "Celgar's Annual Mill Load" less "Annual Purchases from FortisBC" or "Turbine Output" less "Export Power Sales" from Annex A to the Second Witness Statement of Brian Merwin.

18. Utilizing the GBLs above, we calculated that Celgar's total combined historical lost cash flows and diminution in its fair market value were between C$ 61 million and C$ 232 million (before pre-award interest).[9]

19. In his report, Dr. Rosenzweig offers comments surrounding our damages quantum calculation. He also offers several opinions with regard to the merits of Mercer's claim and the justification of the BCUC's and BC Hydro's actions. As Dr. Rosenzweig's opinions in this arbitration are of a broader scope than our opinions, we only address those portions of his opinion in this reply report that are relevant to our scope of work.

20. With respect to our damages calculation and model, Dr. Rosenzweig offers seven primary comments. In the subsections below, we address each of Dr. Rosenzweig's comments and attempt to place them in the proper context with regard to the Measures to which they apply.

A. Our Alleged Failure to Assess the Economic and Regulatory Underpinnings of the Discrimination Claims

21. Dr. Rosenzweig contends that we have failed to perform an economic and regulatory analysis of the facts to determine if they support the merits of Claimant's discrimination claim.

> "Mr. Kaczmarek does not independently assess the economic or regulatory underpinnings of any claims of discriminatory or unfair treatment by Canada brought forth by Claimant."[10]

22. As a result of his economic and regulatory analysis, Dr. Rosenzweig finds that the Measures are justified and are not a breach of the NAFTA. As such, in his view there can be no damages.

> "My economic and regulatory analysis of the Claimant's filing reveals the unsustainability of its assertion that it has been treated, to its disadvantage, unfairly and differently than other BC pulp mills.… As a result, in addition to its quantitative shortcomings, Claimant's damages argument fails, as Claimant does not demonstrate that it has been economically harmed."[11]

[9] Navigant Expert Report, ¶ 22
[10] Expert Report of Michael Rosenzweig, ¶ 106
[11] Expert Report of Michael Rosenzweig, ¶ 32

> "From an economic perspective, I conclude that Claimant has not been damaged and as a direct consequence deserves no compensation from this Tribunal."[12]

23. We agree with Dr. Rosenzweig that we did not perform an independent economic and regulatory analysis of Mercer's claims with respect to the Measures. The scope of Dr. Rosenzweig's engagement is broader than ours and includes examining the economic and regulatory justification for the Measures. Our scope is limited to assessing and calculating damages assuming the Measures are a breach of the NAFTA. Our examination of the Measures revealed that Celgar is indeed subject to a "net-of-load" standard (tied to its 2007 load), which prevents it from purchasing embedded-cost utility power while simultaneously selling its self-generated electricity below that level. Thus, but-for the Measures, Celgar would have been able to sell greater quantities of its self-generated electricity, including that which it must currently use to supply all or a portion of its load. Thus, we have calculated damages accordingly.

24. The determination of any legal, economic, and regulatory justification of the Measures (if any), as well as whether Celgar is being treated fairly vis-à-vis other self-generators in the Province, are fundamental questions for the Tribunal. As independent damages experts, we express no opinion as to whether the Measures are or are not consistent with Respondent's duties under the NAFTA or if they can be justified under any economic or regulatory pretext. Our calculations and reports are designed to assist the Tribunal if it determines that the Respondent is liable for damages arising from the Measures.

25. We also express no opinion on the legal merits of the allegations set forth by Dr. Rosenzweig or Respondent, such as whether Celgar committed to self-supply its load through a Ministers' Order. Accordingly, our damages calculation does not consider the impact of those allegations.

26. We note that while the parties may dispute the justification for the Measures, there is little in dispute as to the practical impact of the Measures should the Tribunal decide that Respondent's treatment of Celgar is inconsistent with the NAFTA. For instance the parties agree:

- The GBL in the BC Hydro EPA was set at 349 GWh/year, equal to Celgar's 2007 load.[13]

[12] Expert Report of Michael Rosenzweig, ¶ 152

- The BC Hydro EPA prohibits Celgar from selling any electricity under the GBL to third parties.[14]
- BCUC Order G-48-09 prohibits FortisBC from supplying Celgar with electricity obtained from BC Hydro under the 1993 PPA while Celgar is selling its self-generated electricity.[15]
- Celgar and BC Hydro have agreed to a < [redacted] >[16]

27. Thus, if the Tribunal finds that the Measures are indeed inconsistent with the NAFTA and that Celgar should have been able to sell some or all of its below load electricity, the parties agree on the impact that the Measures have had on Celgar's operations. Accordingly, the parties in theory also agree on the construction of the But-For Scenario that would mitigate the effect of the Measures (i.e., that Celgar would be entitled to sell all or a portion of its below load electricity and purchase replacement power from FortisBC). The parties, however, disagree as to the assumptions that should be employed in the But-For Scenario.

B. Dr. Rosenzweig's Assertion that Claimant Has Suffered No Financial Loss as a Consequence of the GBL Imposed

28. Dr. Rosenzweig alleges that Mercer has not suffered any damages as a result of the 349 GWh/year GBL imposed on Celgar in the BC Hydro EPA as he alleges it is unsupported that Celgar's competitive position vis-à-vis other BC pulp mills has been impacted. Dr. Rosenzweig also alleges that the quantification of damages based on a GBL of 0 GWh/year is unfounded.

> "Even if Celgar's GBL were found to have been set in a manner that was objectionable, the quantum claimed by Mercer is either unsupported or vastly overstated. First, Mr. Kaczmarek suggests that Celgar's competitive position has been impaired but does not support this assertion, and the evidence supports the opposite

[13] Respondent's Counter Memorial, ¶¶ 232-233
[14] Respondent's Counter Memorial, ¶ 249
[15] Respondent's Counter Memorial, ¶ 255
[16] Respondent's Counter Memorial, ¶¶ 256-260

> conclusion. Second, Mr. Kaczmarek's quantification of damages based on a zero GBL is unfounded and erroneously assumes that Celgar can buy the electricity that it seeks to arbitrage at a rate that was never approved by the BCUC or for which Celgar is ineligible."[17]

29. In the subsections below, we explain (1) how the Measures have indeed impaired and distorted the competitive position of Celgar vis-à-vis competing mills and (2) how a GBL of 0 GWh/year is appropriate.

i. The Measures Have Distorted the Competitive Position of BC Mills

30. Dr. Rosenzweig incorrectly states that we failed to determine whether Celgar's pulp operations and its position vis-à-vis competing mills in British Columbia have been impaired as a result of the Measures. Dr. Rosenzweig ignores that in our first report, we explained that Celgar has been more exposed to fluctuations in pulp prices than it would have been absent the Measures. If Celgar were afforded greater access to embedded cost utility power, its revenue base would have been more diversified (or alternatively it could have offset more of its costs). Accordingly, Celgar would remain more competitive in periods of decreased demand for NBSK pulp.

> "Celgar is more exposed to fluctuations in pulp prices than would be the case absent the Measures. Higher cost pulp producers commonly idle or close high-cost pulp mills in periods of decreasing prices, decreasing demand, or increasing costs. Thus, green energy sales act as an offset to costs, allowing a mill to remain viable and operational in periods of low demand."[18]

31. As we noted in our first report, we did not modify our damages model to account for Celgar's increased risk and exposure to the NBSK pulp market as a result of the Measures, as a damages award for Celgar's inability to sell its historical self-generated electricity below its GBL will compensate Celgar for this increased risk.[19] Nonetheless, Dr. Rosenzweig misinterprets our explanation of the impact that the Measures have on Celgar and its position vis-à-vis competing mills in British Columbia such as the Paper Excellence's Skookumchuck Mill ("Skookumchuck Mill," formerly owned by Tembec) and Paper Excellence's Howe Sound Pulp & Paper Corporation ("Howe Sound"). Dr. Rosenzweig misses and obscures our point by focusing

[17] Expert Report of Michael Rosenzweig, ¶ 110
[18] Navigant Expert Report, ¶ 104
[19] Navigant Expert Report, ¶ 107

specifically on Celgar's pulp production which would remain unchanged but-for the Measures. Even though we assume that Celgar's pulp production would remain unchanged, Dr. Rosenzweig ignores the fact that the relative competitive positions of BC pulp mills have been distorted by the Measures.

> "Mr. Kaczmarek does suggest that Celgar's competitive position has been adversely affected by its inability to sell its below-GBL generation. However, Mr. Kaczmarek does not (nor does Mr. Switlishoff upon whom he relies) provide evidence that supports this claim.…{T}he evidence shows Celgar has suffered no ill effects due to its allegedly damaged competitive position."[20]

> "Claimant has not demonstrated how the GBL in its EPA has prevented Claimant from engaging in any economic activity that it would have engaged in with a GBL purportedly in line with the treatment of other mills."[21]

32. Under the Measures, competing mills were allowed greater relative access to embedded-cost power to supply their loads and, in turn, have greater ability to sell their below load self-generated electricity at market rates. Thus, the Measures imposed by BC Hydro and the BCUC have effectively allowed competing mills to offset more of their costs with profits from the sale of their electricity, changing those mills' shutdown points. Mills that ordinarily would shut down in periods of falling NBSK pulp prices or increasing fiber (i.e., raw materials) costs are able to remain in operation longer.[22] As pulp and fiber are commodities, when mills that would be uneconomic but-for the Measures remain in operation, it has the knock-on effect of an oversupply of pulp (depressing pulp prices) or an undersupply of fiber (increasing raw materials costs).

33. BC Hydro recognized that dynamic in April 2009 when evaluating a request from Tembec to renegotiate the EPA for the Skookumchuck Mill. The Skookumchuck Mill had previously shut down on 23 February 2009 for a six-week period.[23] At the time, << [redacted]

[20] Expert Report of Michael Rosenzweig, ¶ 114
[21] Expert Report of Michael Rosenzweig, ¶ 112
[22] Poyry, BC Task Force Report, p. 27 **(C-52)**
[23] CNW Newswire, Tembec takes downtime to adjust to market conditions, 3 February 2009, **(NAV-79)**

[redacted] >>[24]

<< [redacted] >>[25]

<< [redacted] >>[26]

34. In seeking a new and more favorable EPA with BC Hydro, Tembec sought to sell << [redacted] >> to capitalize on BC Hydro's demand for green energy and the prevailing higher prices for green energy.

<< [redacted] >>[27]

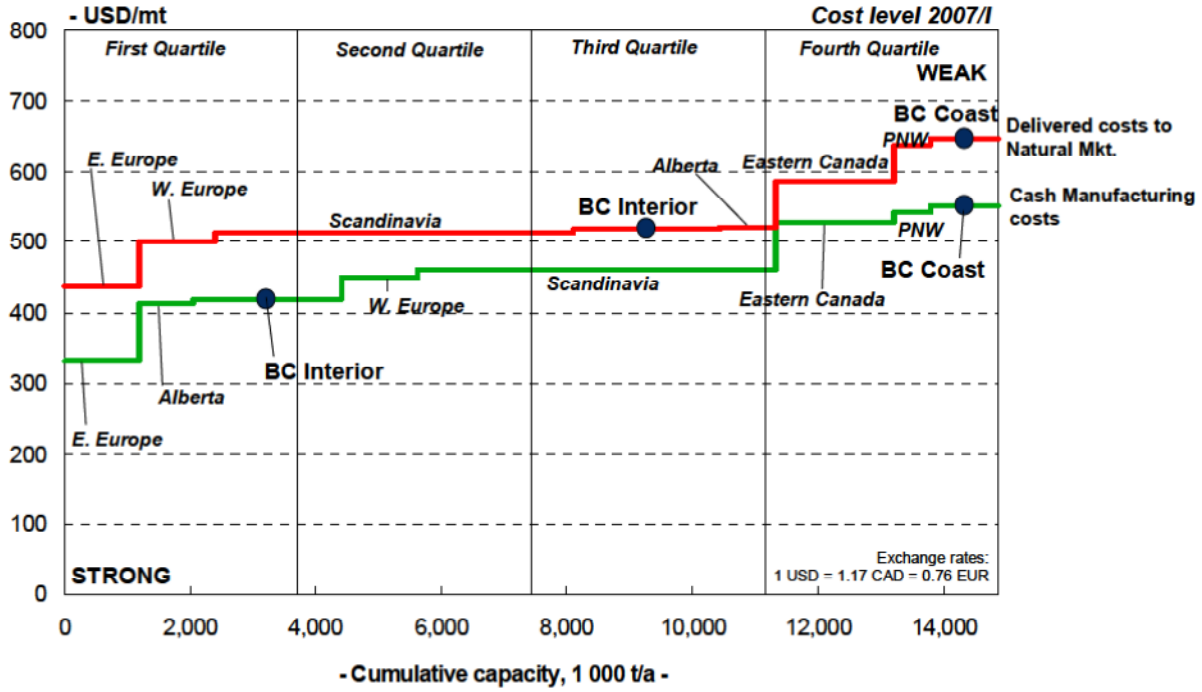
35. According to BC Hydro, Tembec's motivation in negotiating a new << [redacted] >>[28] This, in turn, improved its position on the global "cost curve."

36. As explained by Pöyry in a report to the BC Pulp and Paper Task Force, NBSK pulp mills in British Columbia have some of the highest costs per ton worldwide when transportation costs to their natural market are considered.[29] As Figure 1 below reveals, mills in BC's interior (such

[24] BC Hydro Inter-office memo Re: Tembec Skookumchuck Pulp Operations – CBL / GBL / EPA Analysis, dated April 8, 2009, bates 037395-037399, p. 1, **(NERA-21)**
[25] BC Hydro Inter-office memo Re: Tembec Skookumchuck Pulp Operations – CBL / GBL / EPA Analysis, dated April 8, 2009, bates 037395-037399, p. 1, **(NERA-21)**
[26] BC Hydro Inter-office memo Re: Tembec Skookumchuck Pulp Operations – CBL / GBL / EPA Analysis, dated April 8, 2009, bates 037397, p.3, **(NERA-21)**
[27] Email from M. Steele to K. Wallace, 16 March 2009, **(R-191)**
[28] BC Hydro Inter-office memo Re: Tembec Skookumchuck Pulp Operations – CBL / GBL / EPA Analysis, dated April 8, 2009, bates 037395-037399, p. 1, **(NERA-21)**
[29] Poyry, BC Task Force Report, p. 9, **(C-52)**

as Celgar and Skookumchuck) fall within the third quartile and mills in BC's coastal region (such as Howe Sound) fall within the fourth quartile among mills worldwide.

Figure 1 – Cost Curve of NBSK Pulp Producers per Pöyry[30]

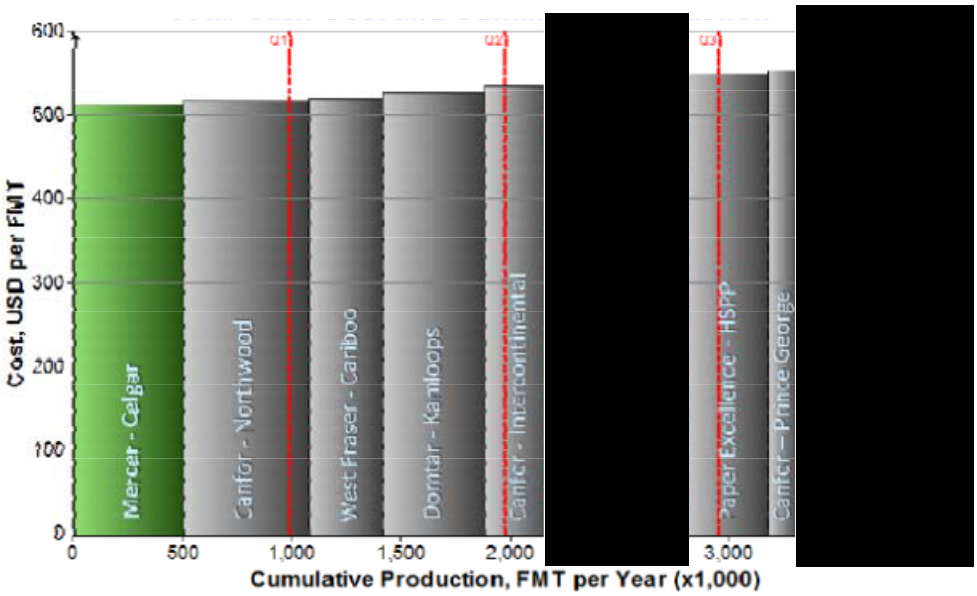


37. Pöyry explained any offset or reduction in costs for pulp mills in interior British Columbia could have a significant impact on their location on the cost curve and shutdown point, particularly between mills in the second and third quartile.[31] Accordingly, by allowing the Skookumchuck Mill and Howe Sound to sell a portion of their load, BC Hydro has improved their position on the cost curve and allowed them to remain in operation longer during periods of falling pulp prices or rising fiber costs.

38. Mr. Brian Merwin (Mercer's Vice President of Strategic Initiatives) illustrates this dynamic in his witness statement. As can be seen in Figure 2 below, in 2011 Celgar had the lowest cash cost of production of BC mills when only surplus energy sales are considered.

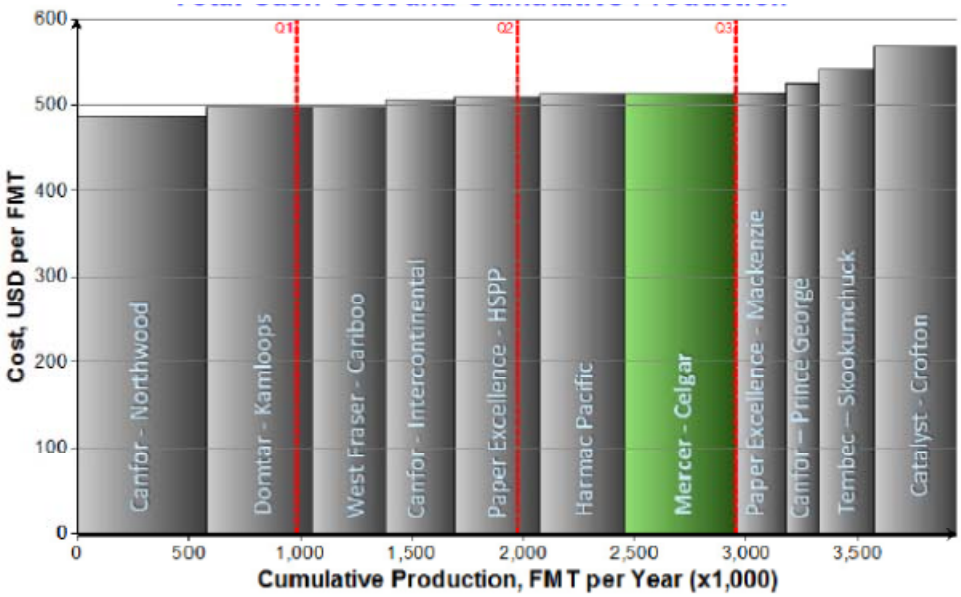
[30] Poyry, BC Task Force Report, p. 10, **(C-52)**
[31] Poyry, BC Task Force Report, p. 9, **(C-52)**

Figure 2 - Estimated Cash Costs of NBSK Production, Without Below Load Energy Sales[32]



39. However, as Figure 3 below reveals, when below load energy sales are taken into account, Celgar falls to the third quartile.

Figure 3 - Estimated Cash Costs of NBSK Production, With Below Load Energy Sales[33]



[32] First Witness Statement of Brian Merwin, Figure 6. Mr. Merwin also states, "The mills highlighted in green in the figure above are the mills that shut down in the cyclical downturn that coincided with the last recession, most probably because their variable costs exceeded their revenue." (First Witness Statement of Brian Merwin, ¶ 153).

[33] Figure 3 above considers the sale of surplus energy over each mill's load. See First Witness Statement of Brian Merwin, Figure 7

40. As can be seen in Figures 2 and 3 above, the offsets arising from below load energy sales have allowed competing mills to reduce their cash costs of NBSK pulp production. Celgar's competitive position on the cost curve vis-à-vis competing mills has clearly been impacted as a result of the Measures.

ii. Dr. Rosenzweig Misunderstands the Zero GBL and Alternative GBL Damage Calculations

41. In calculating Mercer's damages under the Measures, Dr. Rosenzweig alleges that our use of a GBL of 0 GWh/year to calculate Mercer's maximum damages is inappropriate as it does not reflect Celgar's GBL as stated in its *Bioenergy Call for Power* registration forms.

> "The calculation performed by Mr. Kaczmarek that relates to Mercer's claim assumes a But-For GBL of zero. However, a GBL of zero does not reflect Claimant's own determination of the proper GBL that it should have been given in its EPA. So, the highest value that Claimant's damages should be based on is the GBL that Celgar actually determined as correct in response to the Bioenergy Call for Power under which Celgar was awarded its EPA. In its application for the Bioenergy Call, Celgar put forward a GBL of 34.3 MW on average…"[34]

42. Celgar submitted the two registration forms referenced by Dr. Rosenzweig in March 2008 in response to Phase I of the *Bioenergy Call for Power*. The first registration form was to sell electricity generated under Celgar's Biomass Realization Project where Celgar proposed to sell < [redacted] > GWh/year of generation from its existing 52 megawatt ("MW") turbine.[35] The second registration form was to sell electricity generated under Celgar's Green Energy Project where Celgar proposed to sell < [redacted] > GWh/year of generation from a new 48 MW turbine.[36]

43. The instructions on both registration forms directed Celgar to report its annual energy output for the 2005 operating year on a line entitled "Estimated GBL".[37] Accordingly, Celgar

[34] Expert Report of Michael Rosenzweig, ¶ 117. Dr. Rosenzweig continues, "Mercer's claim is based on seeking 39.8 MW of additional arbitrage, when in reality the maximum its damages could be would be based on 5.5 MW of additional arbitrage. 5.5 MW is the difference between the GBL that Mercer sought in the Bioenergy Call (34.3 MW) and the GBL in its EPA awarded under that Call (39.8 MW)". Expert Report of Michael Rosenzweig, Footnote 171.

[35] BC Hydro Bioenergy Call for Power (Phase I) – Registration Forms, dated March 6, 2008, pp. 2, 6, (MER00278896, MER00278900), **(NERA-28)**

[36] BC Hydro Bioenergy Call for Power (Phase I) – Registration Forms, dated March 6, 2008, p. 9, (MER00278903), **(NERA-28)**

[37] BC Hydro Bioenergy Call for Power (Phase I) – Registration Forms, dated March 6, 2008, pp. 6, 13 (MERC00278900, MERC00278907), **(NERA-28)**

listed its 2005 generator output of 300.2 GWh/year (or 34.3 MW) on this line.[38] Dr. Rosenzweig concludes that by reporting the information as instructed on the registration form, Celgar was committing to a GBL equal to its 2005 generation.[39]

44. It is unclear why Dr. Rosenzweig believes that the registration forms hold any significance. An examination of the registration forms and related correspondence reveals that Celgar did not appear to intend on setting its GBL at 300.2 GWh/year. Indeed, subsequent correspondence between BC Hydro and Celgar in response to the registration forms indicate that Celgar sought to sell its entire load.

> "We further understand that Celgar, for the purposes of the Biomass Realization Project, is exploring the possibility of recalling some or all of the load displacement arrangements currently in place with FortisBC, and additional energy required to serve the mill load to be supplied by FortisBC, with the intent of submitting a proposal to BC Hydro in this Call for the sale of the resulting additional surplus energy to BC Hydro."[40]

45. An examination of the remainder of the registration forms further reveals that Celgar planned on selling its entire generation. Section B of the registration form instructed Celgar to list out Celgar's commitments to sell its energy to third parties. In this section, Celgar accounted for its entire 2007 generation of 350.641 GWh as "existing commitments" on its registration forms.[41] Specifically, Celgar reported commitments to sell 13.84 GWh/year of exports to NorthPoint Energy (expiring next day), and an additional 10.09 GWh/year of exports to FortisBC (expiring next day).[42] We note these commitments are equal to Celgar's total 2007 physical export power sales of 23.93 GWh.[43] Celgar also accounted for the remainder of its 2007 generation (i.e., Celgar's 2007 generation less its 2007 sales to NorthPoint and FortisBC) as a

[38] BC Hydro Bioenergy Call for Power (Phase I) – Registration Forms, dated March 6, 2008, pp. 6 & 13 (MERC00278900, MERC00278907) **(NERA-28)**; Second Witness Statement of Brian Merwin, Annex A (revised)
[39] Expert Report of Michael Rosenzweig, ¶ 117
[40] Letter re Biomass Realization Project, 2 May 2008, p.1, **(R-126)**
[41] BC Hydro Bioenergy Call for Power (Phase I) – Registration Forms, dated March 6, 2008, pp. 6 & 13 (MERC00278900, MERC00278907) **(NERA-28)**; Second Witness Statement of Brian Merwin, Annex A (revised)
[42] BC Hydro Bioenergy Call for Power (Phase I) – Registration Forms, dated March 6, 2008, pp. 6 & 13 (MERC00278900, MERC00278907) **(NERA-28)**; Second Witness Statement of Brian Merwin, Annex A (revised)
[43] Second Witness Statement of Brian Merwin, Annex A (revised)

commitment to sell 326.72 GWh/year to FortisBC that would expire prior to signing the EPA.[44] Although Celgar never secured a long-term EPA with FortisBC, this is consistent with Celgar's contemporaneous negotiations to first sell its incremental electricity to FortisBC and later secure a power supply agreement with FortisBC that would allow Celgar to become a full-load customer while selling its total electrical generation to third parties.[45]

46. Given the instructions on the registration forms, the information provided by Celgar in several fields, and Celgar and BC Hydro's subsequent communications regarding the registration forms, Dr. Rosenzweig is wrong to conclude that Celgar's completion of the registration form is equivalent to it agreeing to a GBL of 300.2 GWh/year. Thus, we disagree that Celgar's maximum damages should be limited to a GBL of 300.2 GWh/year.

47. If the Tribunal finds that the Measures were inconsistent with the NAFTA, Celgar's maximum damages should be calculated assuming a GBL of 0 GWh/year – not 300.2 GWh/year as Dr. Rosenzweig claims. As Mercer claims the Measures (together and separately) prevented Celgar from selling its below load self-generated electricity and forced Celgar to provide load displacement services to BC Hydro without compensation (despite compensation having been paid by BC Hydro to other pulp mills), a 0 GWh/year GBL would allow Mercer to obtain compensation for Celgar's load displacement. Furthermore, a 0 GWh/year GBL is consistent with the treatment afforded by BC Hydro to Tembec in its 1997 EPA which contained no GBL.

48. Nevertheless, at the request of Counsel, in our first report we presented several alternative damage calculations using a variety of higher GBLs in the event that the Tribunal finds that Celgar should have been entitled to only sell a portion of its below load self-generated electricity. Dr. Rosenzweig does not appear to understand why Counsel requested that we prepare several alternative damages calculations using a variety of GBLs.

> "Additionally, though they are not mentioned in the Claimant's request for relief, Mr. Kaczmarek also considers a number of other damages scenarios, with GBLs for Celgar set at levels provided by Claimant (and presumably calculated by Mr. Switlishoff)."[46]

[44] BC Hydro Bioenergy Call for Power (Phase I) – Registration Forms, dated March 6, 2008, pp. 6 & 13 (MERC00278900, MERC00278907) **(NERA-28)**
[45] First Witness Statement of Brian Merwin, ¶ 66
[46] Expert Report of Michael Rosenzweig, ¶147

49. The alternative GBLs used in our first report are based either on Celgar's historical use of its self-generated electricity to meet its load during several alternative baseline periods or GBLs (and resulting embedded-cost utility power) that BC Hydro assigned to the Skookumchuck Mill and Howe Sound under their various EPAs.[47] If the Tribunal decides that Celgar's GBL should have been set at a level based on an alternative baseline period or set to provide a comparable level of access to embedded-cost utility power afforded to the Skookumchuck Mill or Howe Sound, these alternative calculations provide a relevant measure of damages. We discuss our alternative damages scenarios in Section VI below.

C. Dr. Rosenzweig Reasons that Neither Order G-48-09 by Itself or in Combination with the GBL Assigned by BC Hydro Have Harmed Celgar

50. Dr. Rosenzweig offers five contentions that Celgar has not suffered damages from Order G-48-09 by itself or in combination with the GBL set by BC Hydro. Dr. Rosenzweig's first four contentions address the alleged reasons why Celgar could not have sold its below load self-generated electricity to BC Hydro or third parties. Dr. Rosenzweig's fifth contention is that Celgar could not have sold its below load generation because it did not have an agreement to purchase replacement electricity from FortisBC. In the following subsections we examine and comment on each of these five contentions.

i. Allegation #1: Sales of Generation Below Celgar's GBL to BC Hydro are Speculative

51. In our first report, we explained that BC Hydro was a significant purchaser of green energy in British Columbia and that but-for the Measures it would be the most likely purchaser of Celgar's electricity below its GBL.

> "BC Hydro had sought the purchase of green energy (specifically biomass-based green energy) in August 2008 when it solicited bids under the *Bioenergy Call for Power*. Moreover, BC Hydro continually sought the purchase of green energy through various other initiatives and tenders after the Bioenergy Call for Power…As a significant purchaser of green energy and in light of the Province's directive to increase renewable electricity generation, in our view, it is reasonable to assume that BC Hydro would have agreed to purchase Celgar's below load generation as of 6 May 2009."[48]

[47] Navigant Expert Report, ¶ 197
[48] Navigant Expert Report, ¶ 199

52. In contrast, Dr. Rosenzweig contends that it is highly speculative that BC Hydro would purchase Celgar's self-generated electricity.

> "Under this hypothetical, Celgar would need to find a buyer for its generation below the GBL in its EPA with BCH. Mr. Kaczmarek's damages quantum relies on the highly speculative assumption that BCH would purchase, as firm energy, 100% of Celgar's below-GBL energy in his But-For Scenario."[49]

53. We disagree for three reasons.

54. First, Dr. Rosenzweig's reasoning that BC Hydro would not purchase Celgar's below load self-generation is circular, as it is based on his own conclusion that such purchases would be inconsistent with BC Hydro's procurement policies.

> "…{T}he notion that BCH would agree to purchase output at {EPA} prices from Celgar that was not incremental runs counter to the purpose of these agreements. Moreover buying such additional power from Celgar would likely be a losing financial position for BCH's ratepayers and inconsistent with BCH's procurement policies."[50]

55. Dr. Rosenzweig frames his analysis as a procurement issue with respect to BC Hydro. As such, Dr. Rosenzweig concludes that BC Hydro would not purchase Celgar's electricity because, in his view, the electricity is not "incremental" to BC Hydro's system. However, Dr. Rosenzweig ignores that but-for the Measures, Celgar would have been permitted to sell some or all of its below-GBL self-generated electricity to third parties. As a result, but-for the Measures, there is the very real possibility that some or all of Celgar's self-generated electricity would have been sold to third parties outside of British Columbia unless BC Hydro actually purchased it. If Celgar's electricity was not guaranteed to remain within BC Hydro's system, BC Hydro would likely have purchased such electricity.

56. If the Tribunal finds that but-for the Measures Celgar would have a lower GBL, then the procurement issues discussed by Dr. Rosenzweig would not be applicable. In relying on his own circular reasoning, Dr. Rosenzweig ignores that BC Hydro has historically purchased all electricity in excess of a self-generator's GBL (i.e., the self-generator's "eligible energy") and prohibited the sale of any below load self-generated electricity to third parties. Accordingly, if

[49] Expert Report of Michael Rosenzweig, ¶ 120
[50] Expert Report of Michael Rosenzweig, ¶ 120

Celgar had been afforded greater access to embedded-cost power and could have sold its below load self-generated electricity but-for the Measures, we expect that BC Hydro would have sought to purchase all of Celgar's additionally available self-generated electricity. Indeed, we understand that BC Hydro generally purchased all competing mills' self-generated electricity that could have been used to supply their own loads as long as it was above the GBL.[51] But-for the Measures, we see no reason why BC Hydro would act in a manner inconsistent with its historical actions.

57. Second, BC Hydro likely would purchase Celgar's self-generated electricity because it could be offered at a lower cost than that of other generators. As explained by Dr. Rosenzweig, BC Hydro sought to purchase green energy in an economically efficient manner.[52] In Table 3 below we show that the price at which Celgar offered its firm generation to BC Hydro under the *Bioenergy Call for Power* Phase I was the second lowest of the successful bids (as well as among the 20 submissions received).[53] If BC Hydro were to procure electricity for its ratepayers on a lowest cost basis as Dr. Rosenzweig contends, then Celgar's self-generated electricity would be an attractive source of supply.

[51] For example, BC Hydro purchased all of Celgar's above GBL energy under the BC Hydro EPA, all of Tembec's above GBL energy through an EPA in 2009, and all of Howe Sound's above GBL energy through an EPA in 2010. See, for example, BC Hydro and HSPP, Electricity Purchase Agreement, Integrated Power Offer, 7 September 2010, ¶8.4(b) **(C-23)**; BC Hydro and Tembec Electricity Purchase Agreement, 13 August 2009, ¶ 7.4(a), **(C-145)**; Electricity Purchase Agreement between BC Hydro and Canfor Pulp Limited Partnership, 4 February 2009, ¶ 7.4(b), **(C-239)**

[52] Expert Report of Michael Rosenzweig, ¶ 64

[53] BC Hydro Report on the Bioenergy Call Phase 1, Request for Proposals, 17 February 2009, p. 15 **(NAV-41)**

Table 3 – Final Prices in the Bioenergy Call for Power Phase I Awarded EPAs[54]

Bidder	Firm Energy Price at Plant Gate (CA$/MWh)	Levelized Plant Gate Price (CA$/MWh)	Levelized Adjusted Bid Price (CA$/MWh)
Zellstoff Celgar LP	107.00	100.00	111.00
[redacted]			

58. Third, BC Hydro forecasts a long-term increase in electricity demand and forecasts that independent power producers' ("IPP") bioenergy generation would continue to serve to meet some of this electricity demand.[55] Statistics Canada projects that the Province's population will grow nearly 30 percent from 2009 to 2036, from 4.45 million to 5.75 million people, resulting in increased electricity demand.[56] In 2008, BC Hydro's Long-Term Acquisition Plan ("LTAP") projected that BC Hydro would have a resource deficit of 3,000 GWh in 2012, increasing to 14,000 GWh by 2020 and 21,700 GWh by 2028.[57] BC Hydro planned to meet this resource deficit through a combination of demand side management, expansion of BC Hydro owned supply, and a series of power calls from independent power producers, including 1,400 GWh of generation through the two-phase *Bioenergy Call for Power*.[58] Celgar's below-GBL self-generated electricity would serve to help BC Hydro meet its resource deficit.

59. BC Hydro's 2013 *Integrated Resource Plan* ("IRP") projects that between 2013 and 2035, total energy demand in the Province will increase by 40 percent from 57,000 GWh/year to

[54] BC Hydro Report on the Bioenergy Call Phase 1, Request for Proposals, 17 February 2009, Table 2-2, p. 15 **(NAV-41)** The levelized gate price and adjusted bid price were calculated by BC Hydro during the review of their offer (BC Hydro Report on the Bioenergy Call Phase 1, Request for Proposals, 17 February 2009, p. 12 **(NAV-41)**). The levelized gate price was equal to the present value of the firm energy purchases in the proposal (assuming an 8 percent discount rate and a 2.1 percent inflation rate). The levelized adjusted bid price, in addition, accounts for the unique transmission losses and interconnection costs of the individual bidders. Different bidders proposed different inflation escalators, which explains the different relationships between the plant gate price and the levelized price.

[55] BC Hydro Integrated Resource Plan, November 2013, Chapter 4, pp. 4-15 – 4-16 and Chapter 8, p.8-5 – 8-6, **(NAV-120)**

[56] Statistics Canada, Population Projections for Canada, Provinces and Territories 2009-2036, Table 2-11, p. 92, **(NAV-128)**

[57] BC Hydro's 2008 Long-Term Acquisition Plan, pp. 2-18 **(NAV-119)**

[58] BC Hydro's 2008 Long-Term Acquisition Plan, p. 6-46 **(NAV-119)**

80,000 GWh/year.[59] We understand that under the Province's *Clean Energy Plan*, BC Hydro is prohibited from developing new electricity generation and restricted only to improving existing plants.[60] Furthermore, the *Clean Energy Plan* directed that 90 percent of the Province's total electricity generation be green.[61] Celgar's below load self-generation would be an attractive source of green energy to allow BC Hydro to service the Province's expected increase in electricity demand.

ii. Allegation #2: Sales of Non-Firm Energy to BC Hydro Would be Unprofitable

60. Dr. Rosenzweig alleges that, even if BC Hydro would purchase Celgar's below-GBL self-generated electricity, it would only do so on a "non-firm" basis. In his view, Celgar could not sell its electricity at a profit to BC Hydro on a non-firm basis.

> "If it were uneconomic and contrary to its procurement policies for BCH to contract for additional output from Celgar, as I understand it would be, then Celgar's actual options for selling its power in the But-For Scenario would be far less remunerative than what Mr. Kaczmarek assumes. One option would be to sell additional energy to BCH under non-firm energy prices. Celgar's EPA with BCH actually provides a non-firm pricing formula, yet these prices are so low presently that Celgar would be selling at a loss to BCH."[62]

61. We disagree with Dr. Rosenzweig for four reasons.

62. First, Dr. Rosenzweig's position is again based on the circular logic that the purchase of any portion of Celgar's below load self-generated electricity would not be consistent with BC Hydro's procurement policies. But-for the Measures, Celgar's GBL would have been lower, and BC Hydro therefore would have purchased an additional amount of Celgar's self-generated electricity above its GBL pursuant to the BC Hydro EPA on a firm basis.

63. Second, as discussed above, but-for the Measures, there was the very real possibility that Celgar would have sold its below load self-generated electricity to third parties outside of the Province. If BC Hydro was then to procure Celgar's electricity to keep it in the Province, it is illogical that BC Hydro would be able to procure energy from Celgar at "non-firm" prices, as Celgar would be providing BC Hydro with a "firm" resource. Consequently, if BC Hydro were

[59] BC Hydro Integrated Resource Plan, Summary, November 2013, p.5, **(NAV-120)**
[60] Clean Energy BC, A Brief History **(NAV-121)**
[61] The BC Energy Plan, A Vision for Clean Energy Leadership, p. 3, **(NAV-32)**
[62] Expert Report of Michael Rosenzweig, ¶ 121

to procure Celgar's electricity, it should procure it at "firm" prices to reflect the characteristics and nature of Celgar's self-generation.

64. Third, at a macro-level, if the sale of Celgar's below load electricity was not going to be possible or profitable for Celgar (as Dr. Rosenzweig claims), then it would have been illogical for BC Hydro to bring the G-48-09 proceedings. Further, it would have been illogical for BC Hydro to insist on the exclusivity provision in the BC Hydro EPA that prevented the sale of any below-GBL electricity to third parties. Simply put, if BC Hydro viewed that any sale by Celgar of its below-GBL electricity would be unprofitable, then BC Hydro would not have had a reason to prevent Celgar from pursuing sales of its below load or below-GBL electricity to third parties.

65. Fourth, even if BC Hydro would only purchase from Celgar on a non-firm basis, Celgar simply could have pursued the sale of its electricity to third parties on a firm basis. We understand that Celgar has previously sold its self-generated electricity through its broker NorthPoint Energy Solutions ("NorthPoint"). Of course the economics of such power sales depend on prevailing market conditions, but to suggest that Celgar would not pursue non-firm sales of its electricity is incorrect. As Mr. Merwin stated in his witness statement,

> "In 2006, power prices in Alberta at times reached C$ 1000/MWh, and the average price was quite high throughout the year. [ ]"[63]

66. Mr. Robert Friesen, Mr. Merwin's contact at NorthPoint, also confirms the sale of Celgar's electricity to third parties on a firm basis was feasible.

> "By mid-2008, there were [[ ]] that we were planning to broker for Celgar. At the time, I did not believe that we would have any difficulty selling all of the Celgar's self-generated electricity, as the quantity was very small compared to the market demand."[64]

67. Moreover, in May and June 2008, FortisBC reported that the City of Nelson was able to economically sell a portion of its below load self-generated electricity through NorthPoint while

[63] First Witness Statement of Brian Merwin, ¶ 53
[64] Witness Statement of Robert Friesen, ¶ 8

purchasing replacement embedded-cost utility power.[65] Thus, it clearly was economic for a self-generator to sell its below load generation while purchasing replacement embedded-cost utility power.

iii. Allegation #3: Sales to Third Parties Are Speculative

68. Dr. Rosenzweig alleges that it is unlikely that Celgar could have secured sales of its self-generated electricity to third parties.

> "Additionally, there is a suggestion in Mr. Kaczmarek's report that even if BCH was unwilling to contract for all of Celgar's energy output at firm energy prices, Celgar could have sold its below GBL energy to a third party had it not been restricted from doing so. This suggestion is also highly speculative and unlikely….Since Celgar realistically cannot make such third-party sales, it cannot be harmed financially under this hypothetical."[66]

69. It appears that Dr. Rosenzweig deems Celgar's ability to sell its below-GBL electricity to third parties is speculative because of the fact that the Measures prevented Celgar from finalizing sales agreements to third parties.

> "Celgar has provided no evidence…that it would have been able to find a buyer for its output."[67]

70. In our view, it is unreasonable for Dr. Rosenzweig to consider this assumption "speculative" when the Measures are precisely the reason that Celgar was unable to finalize any sales to third parties. We provided evidence in our first report that a market existed for its below-GBL electricity but-for the Measures. For instance as discussed above, NorthPoint identified long-term sales opportunities in the region and offered Celgar the opportunity to enter into [[[redacted]]] for its existing generation in the summer of 2008.[68] Indeed, NorthPoint also successfully facilitated the sale of a portion of the City of Nelson's below load electricity during May and June 2008, allowing the City of Nelson to replace that generation with purchases from FortisBC.[69] We understand that Celgar could not finalize opportunities to sell its

[65] BC Hydro Power Purchase Agreement to Amend Section 2.1 of Rate Schedule 3808, Exhibit C4-4, pp.2-3 **(NAV-122)** (http://www.bcuc.com/Documents/Proceedings/2008/DOC_20094_C4-4_Resp-BCH-CON_Umbrella-Agrmnts.pdf
[66] Expert Report of Michael Rosenzweig, ¶ 122
[67] Expert Report of Michael Rosenzweig, ¶ 122
[68] Witness Statement of Robert Friesen, ¶¶ 7-8
[69] BC Hydro Power Purchase Agreement to Amend Section 2.1 of Rate Schedule 3808, Exhibit C4-4, p.3, **(NAV-122)**

self-generated below load electricity with NorthPoint until the uncertainty surrounding Celgar's GBL and the pending G-48-09 proceedings was resolved.

> "Our intention at the time was to execute one of these contracts in July/August 2008. FortisBC had been indicating this would be possible, even without the executed PSA, and was willing to engage in a trial period while the contract was being finalized. This was put on hold when BC Hydro took its action leading to the G-48-09 decision."[70]

71. Celgar also had entered into discussions to sell its below load electricity to [[ ]].[71] A complicating factor, however, was that it was unknown how much electricity Celgar would have available to sell to third parties until it concluded negotiating the BC Hydro EPA. For obvious reasons, Mr. Merwin stated that [[ ]] needed to know how much electricity it would be able to purchase before entering into a contract with Celgar. With BC Hydro's discussions with Celgar indicating that its GBL would be set at its 2007 load and with BCUC Order G-48-09 precluding all below load sales to third parties, Celgar could not offer electricity for sale to third parties.

> "In our meetings with [[ ]] in 2007, they made it clear that before entering into a contract, they would need to know what volume of electricity would have available to sell to them."[72]

72. In our first report we also explained that there was a robust market for renewable energy (including biomass) in British Columbia and the Western United States at the time the Measures were imposed.[73] For example, Portland General Electric received bids for renewable energy during December 2008[74] and Southern California Edison secured green generation in 2007.[75] Furthermore, California, Oregon, Washington, and British Columbia all passed green energy mandates setting minimum targets for green energy generation at levels up to 90 percent of

[70] First Witness Statement of Brian Merwin, ¶ 83
[71] First Witness Statement of Brian Merwin, ¶ 82
[72] First Witness Statement of Brian Merwin, Footnote 51
[73] Navigant Expert Report, ¶ 102
[74] Clean Power Call Request for Proposals, Report on the RFP Process, 3 August 2010, p. 22 **(NAV-45)**
[75] BC Hydro Report on the Bioenergy Call Phase 1, Request for Proposals, 17 February 2009, Table 5-1, p. 29
(NAV-41)

generators' portfolios.[76] As we discuss in the subsection below, utilities in the Provinces of Ontario and Quebec as well as the Midwestern United States also sought (and in many cases continue to seek) the purchase of renewable energy.

73. Dr. Rosenzweig also claims that even if Celgar had been able to finalize contracts to sell its self-generated electricity to third parties, it is speculative whether it could have sold that self-generation as it had not secured firm transmission capacity.

> "Celgar has provided no evidence that either it is able to contract transmission capacity to transport power out of the province…I have been informed that firm transmission access out of BC is 100% subscribed and has been 100% subscribed for several years."[77]

74. Again, Dr. Rosenzweig's criticisms appear to hinge on the fact that Celgar had not secured long-term firm transmission contracts under the Measures. Because the Measures prevented Celgar from selling its below load electricity to third parties, the fact that Celgar did not have transmission contracts in place should not be surprising. In our view, the mere fact that Celgar was negotiating the sale of its electricity to third parties outside of the Province when the Measures were imposed is indicative that transmission capacity existed at the time. If transmission capacity was unlikely to be available, it would have been illogical for Celgar to be involved in negotiations to sell its full electricity generation outside of the Province, or execute an agreement with FortisBC to become a full load customer, or for BC Hydro to ask the BCUC to restrict Celgar's below load electricity sales.

75. To determine whether transmission capacity was available, we reviewed hourly transmission capacity utilization at the British Columbia Intertie ("BC Intertie") as reported by the Bonneville Power Administration ("BPA").[78] The BC Intertie consists of two

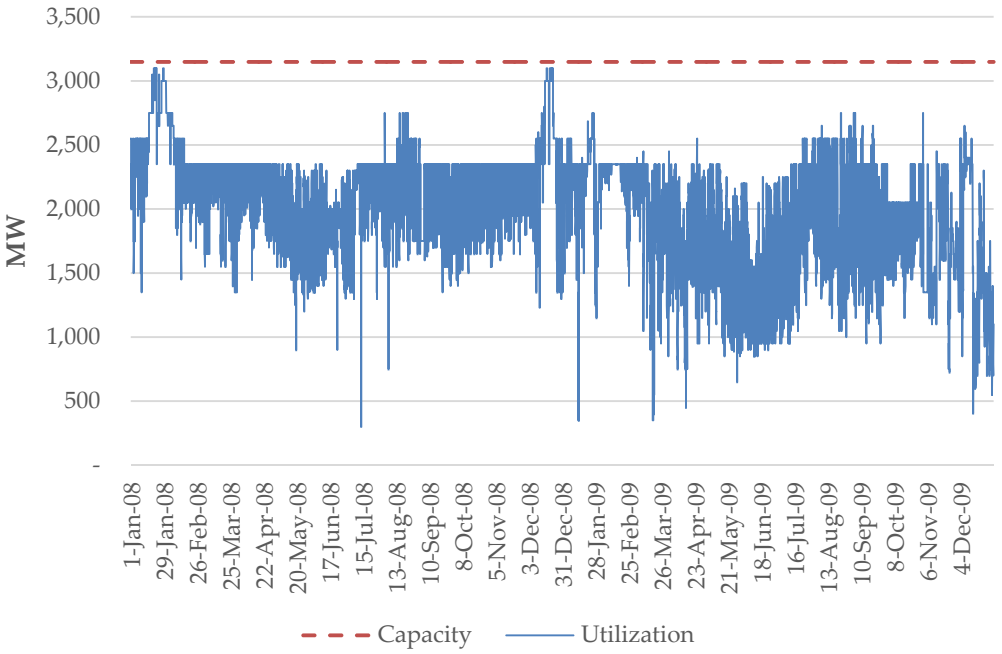
[76] The BC Energy Plan, A Vision for Clean Energy Leadership, p.3 **(NAV-32)**; Federal Energy Management Program, Washington State Voters Mandate Efficiency and Renewable Energy, 15 November 2006 **(NAV-77)**; Oregon Renewable Portfolio Standard **(NAV-108)**; Office of the Governor, Executive Order, 17 November 2008 **(NAV-78)**

[77] Expert Report of Michael Rosenzweig, ¶ 122 and Footnote 181

[78] The Bonneville Power Administration is a non-profit federal agency that is part of the U.S. Department of Energy. The BPA markets wholesale electrical power from U.S. federal hydro projects in the Columbia River basin as well power from non-federal power plants. The BPA also operates and maintains much of the high-voltage transmission within its service area (all or a portion of the States of Idaho, Oregon, Washington, Montana, California, Nevada, Utah, and Wyoming). See Bonneville Power Administration, About Us, **(NAV-123)**

interconnection points between the Province's electricity grid (i.e., BC Hydro's grid) and Washington State's with a combined 3,150 MW of transmission capacity.[79] As shown in Figure 4 below, during 2008-2009, the BPA reported that there was at least 50 MW of excess north-to-south transmission capacity (i.e., exports from BC) in every hour in 2008 and 2009, with an average hourly availability of over 1,100 MW.

Figure 4 – BC Intertie Transmission Hourly Capacity Utilization, 2008-2009[80]



76. As adequate transmission capacity appears to have existed for Celgar to export 40 MW of below load self-generated electricity during 2008-2009, we think it is reasonable that Celgar could secure long-term transmission capacity to export its below load electricity generation.

77. We note that Mr. Friesen also states that his contemporaneous experience found that there was adequate transmission access available to export Celgar's self-generated electricity outside of Canada.

> "I note that Mr. Rosenzweig in his expert report states, 'I have been informed that firm transmission access out of BC is 100%

[79] Although the BC Intertie consists of two physical interconnection points, we understand that, in practice no distinction is made between the transmission points when scheduling transmission. For combined transmission capacity, see Bonneville Power Administration, Rolling 30 Days and Monthly History for Interties and Flowgates, **(NAV-124)**

[80] Bonneville Power Administration, Rolling 30 Days and Monthly History for Interties and Flowgates, **(NAV-124)**

> subscribed and has been 100% subscribed for several years.' Mr. Rosenzweig has been misinformed. From the time I began working with Celgar to broker its electricity sales until present day, there has always been firm transmission access available out of British Columbia for periods of up to twelve months."[81]

78. However, if Celgar had exported its below load self-generated electricity to third parties outside of British Columbia, we understand that it would not be required to book any incremental firm transmission capacity outside of the Province. We understand that for cross border transactions, it is typical for "delivery" of the power to be made at the BC Intertie at the Canadian-U.S. border.[82] The purchaser then arranges transmission from the BC Intertie to its ultimate destination. Within the Province, customers of FortisBC incur no transmission costs, but do incur line losses of 6.08 percent when transmitting power to anywhere on BC Hydro's grid. Accordingly, using such a transaction structure, the 6.08 percent line losses assumed in our model would account for the transmission of Celgar's self-generation to the BC Intertie and Celgar would not be subject to any transmission fees or line losses in addition to 6.08 percent line losses stipulated in the BC Hydro Tariff.

iv. Allegation #4: No Evidence is Offered to Prove Celgar Could Sell Below Load Generation at a Higher Price than Embedded Cost Power

79. Dr. Rosenzweig suggests that even if Celgar could have sold its electricity to third parties, it would not have been able to contract the sale of its self-generated electricity at an "economically efficient" price.

> "In any case, Claimant has not provided evidence that it would be able to contract at a price that would make it economically efficient for Celgar to sell its output rather than self-supply in which case there would be no damages (as the But-For Scenario would be no different than the Actual Scenario)."[83]

80. We disagree with Dr. Rosenzweig's assertion. In our first report, we explained that Celgar could sell its below load/below-GBL electricity at the prices in the BC Hydro EPA, even if the sales were not made to BC Hydro. We explained that BC Hydro justified the prices it secured

[81] Witness Statement of Robert Friesen, ¶ 11, See also ¶ 9.
[82] Witness Statement of Robert Friesen, ¶ 10
[83] Expert Report of Michael Rosenzweig, ¶ 123

under the *Bioenergy Call for Power* by comparing them with the prices for biomass-generated electricity that were obtained by others in the market.

> "BC Hydro justified paying prices of over C$ 100 per MWh under the *Bioenergy Call for Power* as there were other bioenergy power acquisitions that took place in 2007 in California and the Midwestern United States that secured bioenergy for similar prices. Specifically, Southern California Edison secured green generation from plants sized below 20 MW for prices equivalent to between C$ 100 and C$ 111 per MWh."[84]

81. The BC Hydro EPA's prices approximate the prices that third parties paid for biomass based and renewable energy. Consequently, the prices agreed to in the BC Hydro EPA are representative of the market price for biomass-based electricity sold to BC Hydro or third parties.[85]

82. Similarly, BC Hydro prepared justifications for power acquisitions through Phase II of its *Bioenergy Call for Power* and its *Clean Power Call*.[86] BC Hydro's justifications were based on similar purchases made by other utilities in the Pacific Northwest and in Canada's Eastern Provinces.[87] As can be seen in Table 4 below, the levelized prices paid by other utilities for green electricity are comparable to the adjusted levelized price of C$ 111 per MWh in the BC Hydro EPA. Likewise, the prices secured by BC Hydro through its Phase II of the *Bioenergy Call for Power* in August 2011[88] and the *Clean Power Call* in March 2010[89] were comparable to the prices in the BC Hydro EPA. Accordingly, in our view, the prices in the BC Hydro EPA reflect the market price for biomass-based electricity.

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[84] Navigant Expert Report, ¶ 53

[85] BC Hydro also deemed that the prices paid for electricity under the Bioenergy Call for Power were comparable with the prices of a "generic" natural gas fueled combined cycle gas turbine ("CCGT") generating station. BC Hydro Report on the Bioenergy Call Phase 1, Request for Proposals, 17 February 2009, PDF p. 40 **(NAV-41)**

[86] Bioenergy Phase 2 Call Request for Proposals, Report on the RFP Process, 10 February 2012, PDF pp. 4, 17, **(NAV-44)**; Clean Power Call Request for Proposals, Report on the RFP Process, 3 August 2010, pp. 20-21 **(NAV-45)**

[87] See, for example, Clean Power Call Request for Proposals, Report on the RFP Process, 3 August 2010, p. 22 **(NAV-45)**

[88] Bioenergy Phase 2 Call Request for Proposals, Report on the RFP Process, 10 February 2012, PDF p. 4, **(NAV-44)**

[89] Clean Power Call Request for Proposals, Report on the RFP Process, 3 August 2010, p. 3 **(NAV-45)**

Table 4 – Levelized Prices and Tariffs Established by Purchasers of Green Generation from Independent Power Producers[90]

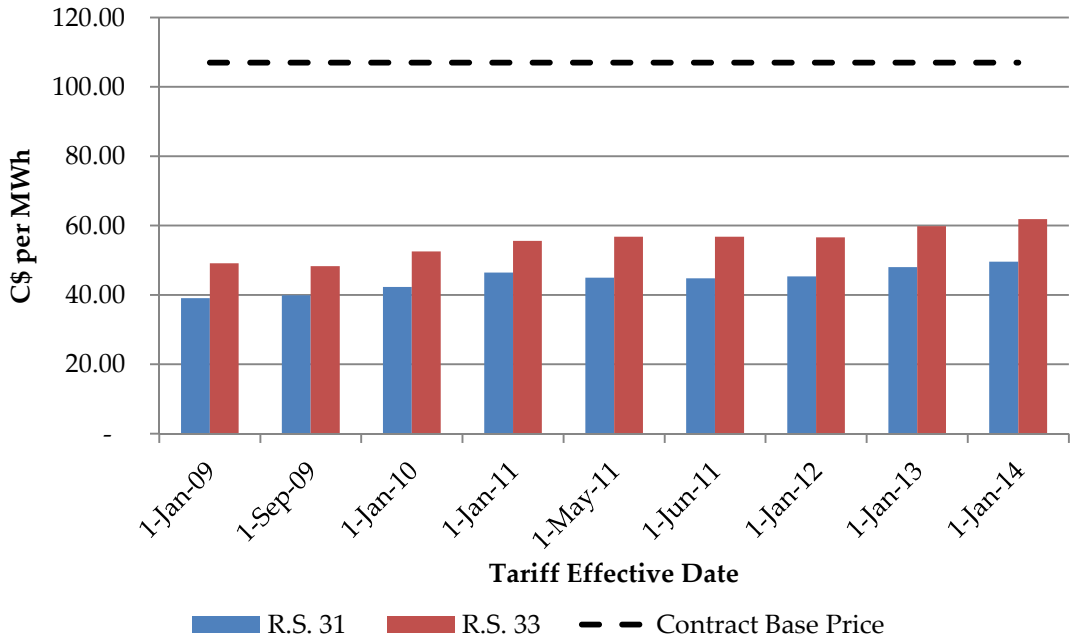
Award/Launch Date	Purchaser	Acquisition Method	Energy Source	Levelized Price (C$/MWh)
January 2009	**BC Hydro**	**EPA with Celgar**	**Biomass**	**$111**
April 2007	Dairyland Power Corp	Power Purchase Agmt.	Biomass	Unknown
May 2007	Southern California Edison	Standard Offer	Biomass	$100 - $103
July 2008	Puget Sound Energy	Request for Proposals	Hydro	$85 - $176
			Wind	$112 - $166
December 2008	Portland General Electric	Request for Proposals	Wind	$91 - $118
March 2009	Ontario Power Authority	Feed-In-Tariff	Hydro	$85 - $111
			Wind	$115 - $163
April 2009	Hydro-Quebec	Call for Tenders	Wind	$125
July 2010	Clean Power Call RFP	Request for Proposals	Hydro/Wind	$127
August 2011	Bioenergy Phase 2 RFP	Request for Proposals	Biomass	$115
Mar 2012-May 2014	Hydro-Quebec	Open Offer	Biomass	$106

83. To suggest, as Dr. Rosenzweig has, that Celgar could not contract to sell its self-generated electricity at "economically efficient" prices (i.e., prices above the cost of embedded cost utility power) is unreasonable.[91] As shown in Figure 5 below, FortisBC's actual approved tariffs (i.e., the cost of embedded-cost utility power) under Rate Schedules 31 and 33 for transmission customers have consistently been significantly lower than the price of biomass-based electricity (as represented by the prices in the BC Hydro EPA).

[90] See BC Hydro Report on the Bioenergy Call Phase 1, Request for Proposals, 17 February 2009, Table 5-2 p. 30 **(NAV-41);** Clean Power Call Request for Proposals, Report on the RFP Process, 3 August 2010, Table 6-2, p. 22 **(NAV-45)**; Bioenergy Phase 2 Call Request for Proposals, Report on the RFP Process, 10 February 2012, Table 5-1, p. 13 **(NAV-44);** Summary Table of Contracts Signed, 25 February 2014 **(NAV-46)**; CNW, Fibrek signs historic contract with Hydro-Québec distribution, 4 May 2012 **(NAV-47)**; Tembec, Tembec announces first phase of $310-million investment to reinforce its position as a global leader in specialty cellulose, 16 March 2012 **(NAV-48).** We note that there are slight discrepancies in the prices. The prices for the EPA awards are levelized to adjust for varying terms and escalation factors and a common delivery point. Prices for awards from April 2007-May 2007are levelized plant gate prices, prices for awards from July 2008-April 2009 are levelized C$2009, prices for awards from July 2010-August 2011 are levelized C$2010, and prices for awards from March 2012-May 2014 are weighted average levelized prices. The BC Hydro EPA price is a levelized adjusted bid price in C$2008. We note that the Hydro-Quebec price of C$ 106 is a C$ 2012 fixed base price in their open offer that is adjusted for inflation (see http://www.hydroquebec.com/distribution/fr/marchequebecois/pae-201101/pdf/pae-201101-consolide.pdf)

[91] Expert Report of Michael Rosenzweig, ¶ 123

Figure 5 – Comparison of Energy Fees from Rate Schedules 31 and 33 to BC Hydro EPA Base Price[92]



v. Allegation #5: The Absence of an Agreement Between FortisBC and Celgar Means Damages are Speculative

84. In our first report, we assumed that Celgar would purchase replacement electricity from FortisBC but-for the Measures per the FortisBC PSA. Pursuant to the FortisBC PSA, we assumed that Celgar would purchase the first 36 MW of demand under Rate Schedule 31 and would purchase any subsequent demand under Rate Schedule 33.[93]

85. In response, Dr. Rosenzweig says that our But-For Scenario damages calculation is speculative because Celgar and FortisBC have been unable to secure a supply agreement to service Celgar's load under the Measures.

> "Finally, even under the present hypothetical, none of these transactions are possible absent an agreement between Celgar and FortisBC under which FortisBC would supply Celgar's load. I note

[92] FortisBC Rate Schedule 31, 2009-2014 **(NAV-125)**; FortisBC Rate Schedule 33, 2009-2014 **(NAV-126)**; BC Hydro EPA, 27 January 2009 **(NAV-71)**

[93] As Counsel requested we assume a variety of Below Load Access Percentages (and, in turn, GBLs) but-for the Measures, to the extent that the eligible load that Celgar can sell is below 36 MW (i.e. if the Tribunal assigns Celgar a GBL of 20 MW per year) we have also assumed that Celgar will purchase all below GBL electricity at Rate Schedule 31 (i.e., the load it is replacing) with the any remaining electricity at Rate Schedule 33. See Navigant Expert Report, ¶ 204

> that such an agreement has eluded the parties for several years. In addition to this unstated speculation, as just discussed, Mr. Kaczmarek is forced to speculate on the rate that would be associated with any requisite service from FortisBC."[94]
>
> "Currently, the matter of a rate for sales from FortisBC to Celgar is before the BCUC. Until a decision is reached in that case, it is speculative to state a rate for such sales."[95]

86. Dr. Rosenzweig is correct that, under the Measures, Celgar and FortisBC have been unable to agree to a supply agreement that would allow Celgar to purchase its load at embedded-cost rates while simultaneously selling its load. Indeed, the Measures have been the primary obstacle to Celgar and FortisBC implementing a supply contract.[96] But-for the Measures, Celgar and FortisBC had agreed to a supply agreement – the FortisBC PSA.

87. However, whether Celgar and FortisBC agreed to a supply contract under the Measures is irrelevant. The "present hypothetical"[97] referenced by Dr. Rosenzweig is that the Tribunal finds BCUC Order G-48-09 to be "objectionable" (i.e., a breach of the NAFTA).[98] Under that "present hypothetical," the restrictions imposed by BCUC Order G-48-09 under the Measures should be ignored. But-for the Measures, Celgar and FortisBC had in fact agreed to the FortisBC PSA which allowed FortisBC to provide Celgar with embedded-cost generation (including electricity from BC Hydro) while Celgar is selling its self-generated electricity. Because of the G-48-09 proceedings, the FortisBC PSA was withdrawn from consideration by the BCUC and, consequently, was not approved.

> "On 21 August 2008, Celgar and FortisBC entered into a 30-year power supply agreement, the FortisBC PSA. Under the FortisBC PSA, FortisBC agreed to supply Celgar with approximately 43 megavolt-ampere ('MVA'), (i.e., roughly 43 MW), an amount equal to the Celgar Mill's full internal requirements."[99]

88. As an actual and contemporaneous contract between FortisBC and Celgar for the supply of electricity but-for the Measures existed (the 2008 FortisBC PSA), it is unreasonable for Dr. Rosenzweig to suggest that the rates employed in our model are speculative. Moreover, the

[94] Expert Report of Michael Rosenzweig, ¶ 124
[95] Expert Report of Michael Rosenzweig, ¶ 119
[96] First Witness Statement of Brian Merwin, ¶¶ 131-137
[97] Expert Report of Michael Rosenzweig, ¶ 124
[98] Expert Report of Michael Rosenzweig, ¶ 120
[99] Navigant Expert Report, ¶ 82

prices in the FortisBC PSA are based entirely on FortisBC's Rate Schedules 31 and 33 which are BCUC-approved and publicly available tariffs for embedded-cost utility power. Thus, when calculating damages during 2009-2013, we used the actual FortisBC Rate Schedules 31 and 33. It is unclear how Dr. Rosenzweig can consider these actual, publicly known, and BCUC-approved tariffs to be "speculative."

89. As for our forecasted (i.e., 2014-2020) Rate Schedule 31 and 33 tariffs used in our But-For Scenario, we relied on FortisBC's and BC Hydro's requested tariff increases. Although FortisBC's future rate increases have yet to be approved by the BCUC, it did set on an interim basis FortisBC's Rate Schedules 31 and 33 for 2014 equal to FortisBC's requested rate increases.[100] We also note that the BCUC approved BC Hydro's requested rate increases for 2014 and 2015 without any modification.[101] Thus, in our view, a reasonable investor would consider FortisBC's requested rate increases in planning for their future electricity purchases.

D. Even if the Tribunal Finds Claimant Has Been Harmed, Dr. Rosenzweig Claims Certain of Our Quantitative Variables and Assumptions are Speculative

90. In addition to the five primary comments above, Dr. Rosenzweig offers two additional comments alleging that our analysis is speculative if the Tribunal finds that Claimant has been harmed by the Measures. First, Dr. Rosenzweig reiterates his opinion that Celgar's purchase price for electricity is speculative as a rate for purchases from FortisBC had never been approved by the BCUC. Second, Dr. Rosenzweig states that our damages calculation should not continue into perpetuity, but instead should be limited to the BC Hydro EPA's term which expires in 2020. We examine each of Dr. Rosenzweig's comments in the subsections below.

i. Celgar's Purchase Price for Electricity

91. Dr. Rosenzweig reiterates his view that our damages analysis is speculative due to our assumption that Celgar would purchase replacement power at the price it already had negotiated with FortisBC in the FortisBC PSA.[102] In this case, Dr. Rosenzweig offers these comments under the hypothetical scenario in which the Tribunal finds that the BC Hydro EPA's GBL is

[100] FortisBC Rate Schedule 31, 2009-2014 **(NAV-125)**; FortisBC Rate Schedule 33, 2009-2014 **(NAV-126)**; Letter from Fortis BC to BCUC, 18 Oct 2013, p. 2 **(NAV-93)**
[101] BC Ministry of Energy and Mines, 10-Year Plan for BC Hydro, 26 Nov 2013, p. 23 **(NAV-94)**
[102] Expert Report of Michael Rosenzweig, ¶¶ 128-129

"problematic" (i.e., a breach of the NAFTA) but that BCUC Order G-48-09 is "valid" (i.e., not a breach of the NAFTA).

> "For the purposes of the hypothetical that the GBL in Celgar's EPA is problematic, Order G-48-09 is assumed to be valid. The FortisBC rate Mr. Kaczmarek assumes effectively includes low embedded cost electricity from the BCH system, so under Order G-48-09 it would be impossible for FortisBC to supply at this rate. In this situation, FortisBC would have limited options. It could: (1) stop taking PPA power entirely, but this would not be in its financial interest; (2) provide power to Celgar reflecting its incremental cost of supply, but this would not be the low embedded-cost electricity that Mr. Kaczmarek assumes; or (3) seek to supply Celgar at low rates by acquiring *new, low-cost* electricity, but this seems inconsistent with available supply options."[103]

92. In the event that the Tribunal finds that Celgar's GBL was set too high but that BCUC Order G-48-09 was valid, Celgar would be in the same regulatory situation as it is in the Actual Scenario – but Celgar would have a lower GBL. Under the Measures, BC Hydro purchases all of Celgar's self-generated electricity above its GBL (set at its 2007 load of 349 GWh) pursuant to the BC Hydro EPA. However, Celgar's load has increased since 2007 and BCUC Order G-48-09 prevents Celgar from purchasing electricity to meet the incremental increase in its load. Thus, under the BC Hydro EPA Celgar is, in effect, selling some below load (but above GBL) self-generated electricity. In the event that the electricity purchased under the BC Hydro EPA is below Celgar's load, the parties record an < [redacted] >[104]

[103] Expert Report of Michael Rosenzweig, ¶ 129

[104] We note that these "sales" and "purchases" are accounting transactions only. We understand that BC Hydro is prohibited from selling electricity to Celgar, because Celgar is not a customer of BC Hydro as it is not located in BC Hydro's service area. We further understand that the < [redacted]

(con't)

93. Accordingly, if the Tribunal finds that Celgar's GBL was set too high but that BCUC Order G-48-09 is appropriate under the NAFTA, then we would expect the parties to continue this arrangement. Thus, in a But-For Scenario prepared under this hypothetical ruling Mercer would continue to incur damages. In that hypothetical, Celgar would record a larger < [redacted] >. In other words, Celgar would retain higher amounts of < [redacted] >.

94. The energy charges under BC Hydro's < [redacted] > are lower than those in FortisBC's Rate Schedule 31 and 33.[105] < [redacted] > as it does under FortisBC's Rate Schedule 31.[106] Thus, if the Tribunal finds that the GBL is set too high but that BCUC Order G-48-09 is consistent with the NAFTA, Mercer's damages would actually increase as compared to its damages under the assumption that BCUC Order G-48-09 is not consistent with the NAFTA since Celgar's replacement electricity costs would be lower due to BC Hydro's lower tariffs. Accordingly, our damages calculation (which presumes that the Tribunal finds both the GBL and BCUC Order G-48-09 to be inconsistent with the NAFTA) would only serve to understate Celgar's damages if the Tribunal only found that the GBL is inconsistent with the NAFTA.

ii. Without a Favorable Award, Mercer Will Suffer Damages Into Perpetuity

95. In our first report, we calculated damages into perpetuity as the Measures are expected to remain in effect indefinitely.[107] Dr. Rosenzweig agrees that if Celgar was harmed by the Measures, Mercer's damages could theoretically be perpetual.

> "In the hypothetical that there is harm from *both* Celgar's GBL and Order G-48-09, damages could theoretically begin prior to the term of the EPA and could extend beyond its expiry."[108]

[redacted] > See Respondent's Counter-Memorial, ¶¶ 256-260

[105] FortisBC Rate Schedule 31, 2009-2014 and Fortis BC Rate Schedule 33, 2009-2014 **(NAV-125 and NAV-126)**, BC Hydro Rate Schedule 1823, 2009-2014 **(NAV-127)**. See also Appendix 3.D

[106] Respondent's Counter-Memorial, ¶ 260

[107] Navigant Expert Report, ¶¶ 9, 208

[108] Expert Report of Michael Rosenzweig, Footnote 202

96. Our damages model explicitly forecasts damages through the end of the BC Hydro EPA in 2020. To calculate damages in 2021 and beyond, we assumed that Celgar's electricity sales revenue and electricity purchase costs would remain the same as we projected in 2020 under the BC Hydro EPA and FortisBC PSA, respectively.[109] We assumed a long-term sales price of C$ < [redacted] >/MWh under the BC Hydro EPA and a long-term average purchase price of C$ 77/MWh under the FortisBC PSA.[110]

97. Even though Dr. Rosenzweig acknowledges that damages could be calculated into perpetuity, he claims that our calculation of damages into perpetuity is speculative as there is no guarantee that the BC Hydro EPA would be renewed.

> "It is highly speculative to assume baldly, as Mr. Kaczmarek implicitly does, that BC Hydro will both need and be willing to re-contract with Celgar at the end of its current EPA term. Mr. Kaczmarek presents no analysis of BCH's anticipated resource needs in 2021 or of the generation mix that it may seek. In 2021, biomass electricity may not be as attractive or economically efficient to acquire as it was in 2010."[111]

98. We disagree with Dr. Rosenzweig's comments for three reasons.

99. First, Dr. Rosenzweig incorrectly concludes that our analysis assumes that the BC Hydro EPA would be renewed perpetually. Rather, we assume that Celgar's But-For Scenario and Actual Scenario electricity sales revenues and purchases would remain constant at 2020 levels. As we indicated in our first report, while BC Hydro is the most logical purchaser of Celgar's electricity, there is a broader market for green energy generation regionally and thus damages are not wholly dependent upon BC Hydro. Moreover, as shown in Table 4 above, prices for green energy have remained relatively stable since 2009. But-for the Measures, Celgar could have secured a contract to sell its self-generation at green energy prices. As we explain below, both BC Hydro and utilities outside of the Province all project long-term increases in electricity demand and have identified long-term shortfalls in supply.

100. Second, even though our model is not wholly dependent upon the perpetual renewal of the BC Hydro EPA, BC Hydro has projected there to be long-term demand growth for electricity in the Province. BC Hydro's most recent Integrated Resource Plan ("IRP"), prepared in 2013,

[109] Navigant Expert Report, ¶¶ 194, 208
[110] Navigant Expert Report, Appendix 3.B; See also, Appendix 5.B
[111] Expert Report of Michael Rosenzweig, ¶ 132

forecasts total energy demand in the Province to increase by 40 percent from 57,000 GWh/year in 2013 to 80,000 GWh/year in 2035 and that BC Hydro will have resource deficits of at least 363 GWh in 2017, 12,660 GWh in 2023, 17,776 GWh in 2028, and 23,634 in 2033.[112] Further, Statistics Canada projects that the Province's population growth will grow nearly 30 percent from 2009 to 2036, from 4.45 million to 5.75 million people.[113] The BC Hydro IRP highlights the role that biomass-fueled independent power producers will play in meeting the Province's long-term energy needs.

> "BC Hydro is fortunate to have several clean energy resource options to help meet the electricity needs of our customers, including biomass facilities, run-of-river hydro and wind projects. Independent power producers (IPP) have been bringing value to BC Hydro's system since the late 1980s, and they will continue to have an important role in providing clean, renewable electricity for decades to come.… the IRP recommends reviewing IPP projects not yet in commercial operation and renewing cost-effective EPAs that provide benefits such as enhanced system reliability and economic activity."[114]

101. The Integrated Resource Plan also indicates that BC Hydro planned to renew 50 percent of its bioenergy EPAs. The Integrated Resource Plan outlines the criteria that BC Hydro planned to use to identify the contracts to target for renewal.

> "…BC Hydro is targeting renewal of the contracts for those facilities that have the lowest cost, greatest certainty of continued operation and best system support characteristics."[115]

102. Based on the criteria within the IRP, Celgar's EPA would likely be one of the bioenergy EPAs that would be targeted for renewal. Celgar's "cost of service" is minimal, as its fuel source, black liquor, is a co-product of the kraft pulping process. Celgar's self-generated electricity has green attributes. Further, renewing Celgar's EPA would have "non-energy" benefits as it would support the mill's continuing ability to employ 410 people in Castlegar.[116]

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[112] BC Hydro Integrated Resource Plan, Chapter 2, pp. 2-37, **(NAV-120)**; BC Hydro Integrated Resource Plan, Summary, **(NAV-120)**
[113] Statistics Canada, Population Projections for Canada, Provinces and Territories 2009-2036, Table 2-11 p.92 **(NAV-128)**
[114] BC Hydro Integrated Resource Plan, Summary, **(NAV-120)**
[115] BC Hydro Integrated Resource Plan, Chapter 4, p. 4-15, **(NAV-120)**
[116] June 2014 Zellstoff Celgar Mill Level Financial Report, PDF p.14, **(NAV-134)**

103. Additionally, BC Hydro historically has continued to purchase electricity from generators with which it had previously contracted, including even less reliable generators such as Tembec and Howe Sound. For example, BC Hydro purchased approximately << [redacted] >> MW per year from Tembec through a << [redacted] >> EPA signed in 1997. Tembec declared *force majeure* on the contract after it became uneconomic for it to produce electricity in 2009, shutting down the Skookumchuck Mill for 6 weeks in February 2009. Nevertheless, BC Hydro renegotiated its EPA with Tembec in 2009 to increase the prices it paid even though Tembec was unable to supply under its previous EPA. Similarly, BC Hydro entered into a Generation Agreement with Howe Sound in 1989 whereby Howe Sound committed to generating << [redacted] >> GWh each year to service its load (in essence, supplying BC Hydro).[117] << [redacted] >>[118] Nevertheless, after Howe Sound committed to perform some upgrades of its facilities, BC Hydro entered into a new EPA with Howe Sound in 2010 to purchase << [redacted] >> GWh/year.[119] As can be seen, the established pattern has been for BC Hydro to enter into new EPAs with self-generators once their prior EPA terminates.

104. Third, aside from projected demand growth in the Province, there is also projected long-term demand growth in the Western United States and Canada. For example, in 2009 Avista Corporation (an electric and gas utility in Eastern Washington State) forecast that utility loads in the Western Interconnect would increase by an average of 1.60 percent per year and that the Northwest region was expected to fall into a capacity deficit by 2015 (when planning margins are considered).[120] Portland General Electric forecast in 2009 that it would need an additional 873 MW of new supply in 2015, increasing to 1,396 MW by 2020.[121] With renewable energy mandates imposed by the U.S. states of Washington, Oregon, and California that require an increasing amount of each state's future generation portfolio to be made up of renewable resources, we expect that there will be continuing demand for Celgar's renewable self-generation after the expiry of the BC Hydro EPA.

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[117] Expert Report of Michael Rosenzweig, Appendix 2, p. 11
[118] Expert Report of Michael Rosenzweig, Appendix 2, p. 11-12
[119] Howe Sound Pulp and Paper Ltd. EPA with BC Hydro, 7 September 2010, Appendix 2, Part I, "Phase II", **(R-62)**
[120] Avista 2009 Electric Integrated Resource Plan, 31 August 2009, pp. 7-3, 7-6, **(NAV-129)**
[121] Portland General Electric 2009 Integrated Resource Plan, 5 November 2009, p. 4, **(NAV-130)**

105. Dr. Rosenzweig also takes issue with our assumption that Celgar could purchase replacement electricity from FortisBC into perpetuity at the rates we projected as of 2020.[122]

> "It is also speculative to assume that no changes will have occurred within the FortisBC region that would have affected the price at which Celgar would be able to acquire replacement power for its mill."[123]

106. We disagree with Dr. Rosenzweig that it is speculative to forecast the price at which Celgar would purchase electricity from FortisBC into perpetuity.

107. We based our projected purchase prices from FortisBC on its 3.3 percent to 3.6 percent annual price increase requests made to the BCUC.[124] FortisBC's price increase requests were only made through 2018. Accordingly, as our projection continues through 2020, we considered additional increases of 3.6 percent per year. Furthermore, we also considered that FortisBC would request an additional price increase equal to an eighth of BC Hydro's requested price increase since BC Hydro supplies FortisBC with nearly an eighth of its electricity.[125] In our view, we believe this is a reasonable basis under which to forecast the future price FortisBC would charge for replacement electricity.

108. We do not project any increase in pulp or electricity sales revenues or costs after 2020 in our terminal value calculation.[126] Over the past decade, realized pulp prices have not increased, in spite of increases in list prices, due to commensurate increases in discounts.[127] Furthermore, we have assumed that Celgar will continue to sell electricity at the rates in the BC Hydro EPA. We believe this is conservative as the BC Hydro EPA limits those price increases to approximately 1 percent per year (50 percent of the projected inflation rate published by the International Monetary Fund).[128] In reality, the BC Hydro EPA would likely be renewed at a higher price. << [redacted]

[122] Expert Report of Michael Rosenzweig, ¶ 132
[123] Expert Report of Michael Rosenzweig, ¶ 132
[124] Letter from FortisBC to BCUC, 18 October 2013, p. 2 **(NAV-93)**
[125] Navigant Expert Report, ¶ 168
[126] See Appendix 3.A and Appendix 3.B
[127] Natural Resources Canada, Rising List Pulp Prices Supported by Rising Discounts, 31 January 2014, **(NAV-136)**
[128] BC Hydro EPA, 27 January 2009, Appendix 3-5, **(NAV-71)**; See also Appendix 3.C.

>>[129] Celgar also had expectations that BC Hydro would renew the BC Hydro EPA at a higher price, hence why its bid under the *Bioenergy Call for Power* was only for 10 years.[130] Had we factored in a growth factor consistent with inflation or a renewal of the BC Hydro EPA at a higher price, our perpetual damages calculation would have been even higher.

IV. Dr. Rosenzweig's Allegation of Quantitative Errors In Our Damages Calculation

109. Aside from the general comments regarding our damages calculations discussed in Section III above, Dr. Rosenzweig also offers specific comments on our quantitation of Claimant's damages.

A. Alleged Quantitative Errors in Our Discount Rate

110. In our damages model, we discounted Celgar's cash flows using its weighted average cost of capital ("WACC"), which is the weighted average of the costs of debt and equity for an investment in Celgar. We calculated Celgar's cost of debt as the median of six comparable company's cost of debt.[131] To calculate Celgar's cost of equity, we used the capital asset pricing model ("CAPM"). We calculated Celgar's WACC at 8.19 percent using a capital structure of 75 percent equity and 25 percent debt, as shown in Table 5 below.

Table 5 – Original Celgar Weighted Average Cost of Capital[132]

Calc.	Components	
	WACC Calculation	
[A]	Cost of Equity	9.23%
[B]	% of Equity	0.75
[C]	Cost of Debt	5.06%
[D]	% of Debt	0.25
[E]=A*B+C*D	**WACC**	**8.19%**

111. Dr. Rosenzweig offers two comments with regard to our discount rate. First, he alleges that we have used an incorrect capital structure of 25 percent debt and 75 percent equity in

[129] BC Hydro Inter-office memo Re: Tembec Skookumchuck Pulp Operations – CBL / GBL / EPA Analysis, dated April 8, 2009, bates 037395-037399, **(NERA-21)**; BC Hydro and Howe Sound Pulp and Paper Limited Partnership Electricity Purchase Agreement Integrated Power Offer, September 7, 2010, ("Howe Sound EPA"), Appendix 3 ¶ 3.1, **(NERA-46)**

[130] Second Witness Statement of Brian Merwin, ¶¶ 32-36.

[131] Specifically, we relied upon the median cost of debt for Canfor Pulp Products, Domtar Corp., Mercer International, Resolute Forest Products, Tembec, and West Fraser Co.

[132] Navigant Expert Report, Table 12

developing our WACC. Second, he alleges that our cost of equity is incorrect as we did not consider investor-specific and company-specific risks in our CAPM. In the subsections below, we address each of his comments.

i. The Capital Structure Used to Calculate our WACC Is Reasonable

112. To calculate our WACC, we applied a capital structure of 25 percent debt and 75 percent equity (or a debt to equity ratio of 0.33) based on our review of the capital structures of the comparable companies shown in Table 6 below.

Table 6 – Capital Structures of Comparable Companies as of 31 December 2013[133]

Company	Market Cap 31 Dec 2013 (C$ mln)	Total Debt (C$ mln)	Debt to Equity Ratio
Canfor Pulp Products Inc.	729	50	0.07
Domtar Corp.	3,247	1,625	0.50
Mercer International	576	1,003	1.74
Resolute Forest Products Inc.	1,617	637	0.39
Tembec Inc.	290	491	1.69
West Fraser Co. Limited	4,462	317	0.07

113. Our review found that Mercer and Tembec had highly leveraged capital structures due to company-specific financing decisions which were atypical of the industry. As such, we ignored Mercer and Tembec's capital structures and instead took an average of the highly equity-weighted capital structures of Canfor, Domtar, Resolute Forest Products, and West Fraser Co. Ltd.[134]

114. Dr. Rosenzweig claims that our weighting of 25 percent debt to 75 percent equity is incorrect because "most, if not all" of a hypothetical transaction for Celgar would be funded with equity.

> "Mr. Kaczmarek errs in his determination of the appropriate capital structure for a potential third party financing an arms-length transaction to purchase Celgar. Rather than consider how a potential investor might actually finance such a transaction, Mr. Kaczmarek calculates a presumed capital structure by taking a very rough average of the company-wide debt to equity ratios of four companies with NBSK mills in Canada.…In my experience, these types of transactions are typically project financed, so that most, if

[133] Navigant Expert Report, Table 9
[134] Navigant Expert Report, ¶ 185

> not all, of the purchase would be financed through equity rather than with the structure modeled by Mr. Kaczmarek."[135]

115. We disagree with Dr. Rosenzweig's comment that "most, if not all, of the purchase would be financed through equity" rather than a combination of debt and equity. As seen in Table 6 above, the use of both debt and equity in a company's capital structure is commonplace as the comparable companies we reviewed employed a mix of debt and equity. We note that Dr. Rosenzweig himself shares the view that companies typically have a mix of debt and equity in their capital structure.

> "It is standard financial practice for companies to raise funds by acquiring debt (e.g., bonds and loans) and raising equity (e.g., stocks)."[136]

116. A mix of debt and equity is commonly employed in order to achieve an optimal cost of capital that allows an investor to maximize its returns. An all equity buyer would be putting itself at a competitive disadvantage to a buyer using an optimal capital structure that includes debt and equity as it would require higher returns on the same asset. For Dr. Rosenzweig to suggest that companies or transactions would be all equity financed is incorrect.[137]

117. We note that in a footnote to his report, Dr. Rosenzweig drew our attention to a minor error in our assumed capital structure.

> "I have not been able to recreate Mr. Kaczmarek's calculation of an average debt to equity ratio of 0.33 (Kaczmarek Expert Report ¶ 185). When I averaged the four companies he chose as comparators (Canfor Pulp Products, Inc., Domtar Corp., Resolute Forest Products, Inc., and West Fraser Co. Limited), I calculated a debt to equity ratio of 0.26. If my calculation is correct, then this would be another error which would have reduced the WACC and so overstated the discounted quantum."[138]

118. We reviewed our model and agree with Dr. Rosenzweig that the debt to equity ratio implied by the comparable companies we considered is indeed 0.26, which implies a capital

[135] Expert Report of Michael Rosenzweig, ¶ 134
[136] Expert Report of Michael Rosenzweig, Footnote 192
[137] We observed that both Mercer and Tembec are significantly more levered than the other comparable companies because they both utilized significant amounts of debt in financing capital investments, the remaining comparable companies all still use some sort of debt financing. In our view, most capital investments would be funded primarily with debt. Since no significant capital expenditures are assumed to occur at Celgar, we ignored those high levels of debt.
[138] Expert Report of Michael Rosenzweig, Footnote 194

structure of approximately 20.5 percent debt and 79.5 percent equity (rather than the 25 percent debt and 75 percent equity we assumed). Had we applied a debt to equity ratio of 0.26 (rather than the 0.33 used in our first report), our WACC would have increased to 8.21 percent (from 8.19 percent). This two basis point increase in our WACC decreases Mercer's damages claim in our first report before interest by C$ 315,883 (assuming a GBL of 0 GWh/year).[139]

ii. Our Cost of Equity Reflects the Fair Market Value Standard

119. As regards our cost of equity, Dr. Rosenzweig alleges that we made three errors: (1) he alleges that we did not consider the investor-specific risks involved with owning Celgar, (2) he alleges that we did not consider certain company-specific risks in developing our cost of equity, and (3) he alleges that we did not consider Celgar's historical EBITDA volatility. We address each comment in the paragraphs below.

120. First, Dr. Rosenzweig states that our cost of equity does not provide for the increased return an undiversified investor would require for holding only Celgar in its investment portfolio.

> "First, {Mr. Kaczmarek} does not provide any assessment of the return that an investor would demand in order to engage in an arms-length transaction to purchase the Celgar mill, but rather bases his analysis on the cost of equity from a company-wide perspective. … There are many reasons why one would expect the required return on equity for a single mill such as Celgar to be higher than the cost of equity for a pulp and paper company. For example, the riskiness of a company's portfolio of assets benefits from diversification, which would lead to the overall company having a risk premium that is lower than the risk premia of its individual assets."[140]

121. We disagree with Dr. Rosenzweig that the return an equity investor in Celgar would require would be higher than the cost of equity for a pulp and paper company. Dr. Rosenzweig overlooks the fact that the valuation of any company or project is performed under the assumption that the company or project is incremental to an already diversified portfolio of projects/companies.

> "The argument that diversification reduces an investor's exposure to risk is clear both intuitively and statistically, but risk and return models in finance go further. The models look at risk through the eyes of the investor most likely to be trading on the investment at

[139] See Appendix 5.
[140] Expert Report of Michael Rosenzweig, ¶¶ 136-137

> any point in time, i.e. the marginal investor. They argue that this investor, who sets prices for investments, is well diversified; thus, the only risk that he or she cares about is the risk added on to a diversified portfolio or market risk. This argument can be justified simply. The risk in an investment will always be perceived to be higher for an undiversified investor than for a diversified one, since the latter does not shoulder any firm-specific risk and the former does. If both investors have the same expectations about future earnings and cash flows on an asset, the diversified investor will be willing to pay a higher price for that asset because of his or her perception of lower risk. Consequently, the asset, over time, will end up being held by diversified investors."[141]

122. As such, no "company specific risk-premium" is required under the fair market value standard.

123. Second, Dr. Rosenzweig claims that our cost of equity is understated because Celgar was subject to 63 company-specific risks that could require an investor to require increased returns.

> "Further, there are financial, market and operational aspects of Celgar specifically that may lead to a high return being demanded by an arms-length purchaser...I note that Claimant lists 63 risks associated with Celgar, in its internal documents, each of which could lead to investors demanding higher returns."[142]

124. Aside from the fact that our cost of equity was measured under the standard CAPM, Dr. Rosenzweig bases his claim on a periodic internal risk assessment produced for **Mercer's** Audit Committee that identifies **Mercer's** risks.[143] The risk assessment was not produced to identify Celgar-specific risks. This should have been apparent to Dr. Rosenzweig upon his review as many of the risks specifically indicate they are related to Mercer's German operations. For instance:

[[redacted]

[redacted]

[141] Damodaran on Valuation, Security Analysis for Investment and Corporate Finance Second Edition, p.31, **(NAV-131)**
[142] Expert Report of Michael Rosenzweig, ¶ 138
[143] Expert Report of Michael Rosenzweig, ¶ 138
[144] Mercer International Inc. - Report to the Audit Committee - Risk Assessment Update, 30 July 2012, MERC00093607 **(NERA-29)**

[redacted][145]

125. Many of the risks identified are general in nature and would apply to nearly any company in any industry. For example:

[redacted]

126. Of the "63 risks associated with Celgar" that Dr. Rosenzweig claims "could lead to investors demanding higher returns," only ten specifically relate to Mercer's Canadian operations.[149] [redacted] Only two risks that are specific to Celgar were accepted and not mitigated by Mercer. These unmitigated "Celgar-specific risks" are:

[redacted]

[145] Mercer International Inc. - Report to the Audit Committee - Risk Assessment Update, 30 July 2012, MERC00093609, **(NERA-29)**
[146] Mercer International Inc. - Report to the Audit Committee - Risk Assessment Update, 30 July 2012, MERC00093606, **(NERA-29)**
[147] Mercer International Inc. - Report to the Audit Committee - Risk Assessment Update, 30 July 2012, MERC00093606, **(NERA-29)**
[148] Mercer International Inc. - Report to the Audit Committee - Risk Assessment Update, 30 July 2012, MERC00093612, **(NERA-29)**
[149] Mercer International Inc. - Report to the Audit Committee - Risk Assessment Update, 30 July 2012, **(NERA-29)**. See "Celgar Pulp Quality" on MERC00093606, "Dam Excursion" and "Energy Reform-BC" on MERC00093607, "Fibre Shortage-BC" on MERC00093608, "Native Land Claims" on MERC0093611, "Pine Beetle" and "Political Risk" on MERC00093612, "Tax-Property" and "Tax-Transfer" on MERC00093613, and "Vancouver Office" on MERC0093614.
[150] Mercer International Inc. - Report to the Audit Committee - Risk Assessment Update, 30 July 2012, MER00093611, **(NERA-29)**

[redacted]
]

127. In our view, neither of these risks are unique to Celgar and are risks that any pulp and paper company operating in Canada and British Columbia would be exposed to. As regards Mercer's comments surrounding the BCUC decision, we ignored that Celgar-specific risk as it would not apply in the But-For Scenario.

128. Third, Dr. Rosenzweig suggests that a hypothetical buyer could require a higher return because Celgar's EBITDA is more volatile than Mercer's other two mills'.

> "{I}t appears that Celgar's EBITDA is particularly volatile, compared to the other mills owned by Claimant."[152]

129. Like most NBSK mills, Celgar's EBITDA is primarily a function of NBSK prices and fiber costs. Mercer notes changes in fiber costs significantly impacted Celgar's EBITDA.

> "The massive swing in fibre costs over a two year period destroyed EBITDA margins at Celgar."[153]

130. As a result of changes in fiber costs, Celgar's net production costs during 2009-2012 experienced volatility. When fiber costs are removed from net production costs, however, Celgar's net production costs have decreased each year.[154] Accordingly, Celgar's EBITDA volatility is largely driven by its fiber costs, which is largely outside of the control of individual mills.[155] In our view, there is little Celgar-specific risk associated with the cost of fiber supply as it is an issue that impacts the regional industry as a whole.

B. Dr. Rosenzweig's Allegation of Other Quantitative Errors in Our Model

131. Dr. Rosenzweig alleges that our cash flow analysis contains at least six additional quantitative errors. Of these six quantitative errors, however, only three are unique or new allegations not discussed elsewhere in his report.

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[151] Mercer International Inc. - Report to the Audit Committee - Risk Assessment Update, 30 July 2012, MER00093612, **(NERA-29)**
[152] Expert Report of Michael Rosenzweig, ¶ 138
[153] Mercer Investment Review, February 2013, MER00094712, p. 6, **(NERA-20)**
[154] Mercer Investment Review, February 2013, MER00094712, p. 6, **(NERA-20)**
[155] Although Mercer upgraded Celgar's wood room in 2009 in order to process up to 50 percent of the mills fiber needs, it still experienced volatility in fiber costs after its investment was completed. See for example Mercer 2013 Annual Report, p.22, **(NAV-01)** and Appendix 3.A , "Average Cost of Wood Inventory"

i. The Start and End Dates of Our Damages Model

132. As the Measures have the same impact both together and separately, in our first report we assumed that Celgar's damages commenced on 6 May 2009, the date that BCUC Order G-48-09 (the first of the Measures) went into effect.[156] Dr. Rosenzweig claims that if the Tribunal accepts an alternative damages analysis that only finds the GBL in the BC Hydro EPA to be inconsistent with the NAFTA, our damages period should commence in September 2010 when the GBL in the BC Hydro EPA became effective.

> {D}amages may only be calculated beginning from the date when sales under the EPA first began (and thus when the "problematic" GBL could have begun to affect the profits of Celgar, i.e., September 2010). So almost a year and a half of Mr. Kaczmarek's damages should be excluded based on this error alone.[157]

133. We agree with Dr. Rosenzweig that if the Tribunal only finds the GBL to be inconsistent with the NAFTA, the damages period should commence on the effective date of the BC Hydro EPA. However, we understand the BC Hydro EPA became effective on 31 July 2009 when it was approved by the BCUC (not September 2010 as Dr. Rosenzweig contends). It appears Dr. Rosenzweig has confused the effective date of the BC Hydro EPA with the commercial operations date of Celgar's second 48 MW turbine under the Green Energy Project of 27 September 2010. The installation and COD of the 48 MW turbine is not relevant to the damages Mercer seeks which stem from the preexisting 52 MW turbine that was available for immediate sale.

134. Nevertheless, we reconsidered the start date of our damages calculation. In our first report, we initiated the damages calculation on 6 May 2009, the date that BCUC Order G-48-09 was issued (i.e., the date of the earlier of the two Measures). As of this date, Celgar was effectively prevented from engaging in the sale of all or a portion of its below load self-generated electricity.[158] However, as BC Hydro was the logical buyer of Celgar's self-generated electricity, damages would not occur until the effective date of the BC Hydro EPA of 31 July 2009. Accordingly, we altered our damages calculation to begin on 31 July 2009 in this second report as compared to our first report where damages began on 6 May 2009.

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[156] Navigant Expert Report, ¶ 108
[157] Expert Report of Michael Rosenzweig, ¶ 140
[158] Navigant Expert Report, ¶ 108

135. Dr. Rosenzweig also reiterates that if the Tribunal only finds the GBL to be inconsistent with the NAFTA, damages should not be perpetual as green energy sales after the initial term of the BC Hydro EPA are speculative.[159] However, Respondent provided no assurances that would change its treatment of Celgar by setting a zero GBL or a GBL on par with its competitors. Indeed, it is Respondent's position that it is not discriminating against Celgar. Nevertheless, if Claimant is awarded financial compensation until perpetuity, it would appear that Respondent has the option of offering restitution in lieu of financial compensation.

136. In any event, we understand that on 6 May 2014, the BCUC approved a new PPA with substantially similar terms between FortisBC and BC Hydro (the "2013 BC Hydro-FortisBC PPA"), which continues restrictions on FortisBC's sales of electricity to self-generators on par with BCUC Order G-48-09.[160] We further understand that the 2013 BC Hydro-FortisBC PPA is for a period of 20 years. From a quantitative perspective, there is not a material difference between a damages calculation to perpetuity and a damages calculation over a period of 20 years because the damages beyond 20 years are discounted significantly.

ii. Celgar's Electricity Sales/Purchases in the Actual Scenario

137. Dr. Rosenzweig alleges that we did not account for the sale of all electricity in the Actual Scenario.

> "…Mr. Kaczmarek has failed to account for all of the electricity produced at the Celgar mill in his Actual Scenario. The amount he fails to account for is equal to the amount that he assumes Celgar purchases from FortisBC in his Actual Scenario. Basically, each MWh that Celgar purchases from FortisBC in an abnormal situation (e.g. during an outage) is an additional MWh that Celgar will have to generate, on a cumulative basis, before it can satisfy its GBL and can receive credit for sales to BCH under its EPA. Therefore, Mr. Kaczmarek fails to realize that there are a number of hours in which Celgar is generating above its mill load, and hence is delivering electricity, yet it cannot get credit for EPA sales to BCH because it has not met its GBL on a cumulative basis. Mr.

[159] Expert Report of Michael Rosenzweig, ¶ 132

[160] Specifically, we understand that the 2013 BC Hydro-FortisBC PPA requires that electricity purchased by FortisBC not be sold to serve any customer's load if the customer is selling its self-generated electricity below a Customer-Specific Baseline ("CBL") that is established by FortisBC and BC Hydro in consultation with the customer. We understand that BC Hydro was directed to file guidelines under which CBLs would be established. In the interim period, which continues through the date of this second report, the BCUC left in place the net-of load restrictions imposed under Order G-48-09 on Celgar and other self-generators in FortisBC's service territory. BCUC Order G-60-14, p. 109, ¶ 3, **(R-221)**

> Kaczmarek's model assumes no revenues for delivering this electricity, implicitly assuming that Celgar would give it away for free. In reality, Celgar and BCH have agreed—and Mr. Kaczmarek overlooks—that BCH will compensate Celgar for this non-EPA electricity resulting in understated revenues in the Actual Scenario."[161]

138. Dr. Rosenzweig's comments are not entirely clear to us. However, we reviewed the electricity volumes sold, generated, and purchased in our Actual Scenario model and found that, due to a modeling error, we were "double-counting" purchases of electricity. In essence, our model included electricity purchases above the GBL, but below Celgar's load from both BC Hydro and FortisBC. As a result, in our Actual Scenario, our calculation of Celgar's electricity costs was overstated and our estimate of Celgar's value was understated by C$ 6,374,748. In Table 7 below, we show the impact of this change on our damages calculations (as modeled in our first report) under the various GBLs employed.

[161] Expert Report of Michael Rosenzweig, ¶ 141

Table 7 – Damages Before and After Correcting Actual Scenario Electricity Purchases[162]

Damages Scenario	Generator Baseline (GWh)	Original Total Damages (C$ mln)	Corrected Total Damages (C$ mln)	Difference (C$ mln)
No Load Displacement Obligation and/or Comparable to Skookumchuck Mill's 1997 EPA	0.0	$ 238	$ 232	$ 6
[redacted]				
Celgar's 2001 generation-to-load (Order G-38-01)	186.1	121	115	6
[redacted]				
Celgar's 2002 generation-to-load (2003 Heritage Contract)	200.0	111	105	6
Celgar's avg. 2005 & 2006 generation-to-load (Before Project Blue Goose)	271.0	62	56	6

iii. Under-Delivery Penalties

139. In both our Actual and But-For Scenarios, we assumed that Celgar will incur under-delivery penalties only if it cannot generate enough excess electricity to supply the minimum contractual requirement of 238.186 GWh/year in the BC Hydro EPA.[163] In our first report, we assumed that in the Actual Scenario Celgar will incur under-delivery penalties of C$ 365,169 in 2014, declining to C$ 120,003 in 2020.[164] In our But-For Scenario, we assumed that Celgar would incur reduced or no under-delivery penalties depending upon the Below Load Access Percentage and related GBL employed.[165] Dr. Rosenzweig claims that it is improper for us to exclude under-delivery penalties in our damages calculation.

[162] See Appendix 5. As we will explain in Section VI below, in this second report, we have abandoned the damages scenario assuming a GBL of << [redacted] >> GWh/year based on a Below Load Access Percentage of << [redacted] >> (<< [redacted] >>) at the instruction of Counsel. In this second report, we have also corrected Celgar's 2002 generation-to-load to reflect 220.022 GWh/year.
[163] BC Hydro EPA, 27 January 2009, Appendix 2, **(NAV-71)**
[164] See Navigant Expert Report, ¶¶158-159; See Appendix 5.A.
[165] See Appendix 5.B

> "…Mr. Kaczmarek assumes in his modelling that the generation from Celgar is the same in both of his Scenarios, therefore whenever Celgar fails to meet the generation requirements in the EPA, it should be subject to contract penalties in both the But-For and Actual Scenarios. But Mr. Kaczmarek ignores this penalty in the But-For Scenario."[166]

140. We disagree that our But-For Scenario ignores under-delivery penalties. In the But-For Scenario, the BC Hydro EPA would cover electricity sales from both its old 52 MW turbine as well as the new 48 MW turbine rather than just the new 48 MW turbine. As such, Celgar would have up to an additional 349 GWh/year of electricity from the old 52 MW turbine that could be sold under the BC Hydro EPA but-for the Measures (depending upon the GBL employed). With the added flexibility of the old 52 MW turbine being covered under the BC Hydro EPA, we believe it is reasonable to assume Celgar would incur lower under-delivery penalties than in the Actual Scenario, particularly when the GBL is higher than zero. We note that our But-For Scenario does indeed include under-delivery penalties when applicable. For example, in our alternative damages calculation using a GBL of 271.0 GWh/year (based on Celgar's 2005-2006 self-generation consumption), we calculate that Celgar will incur under-delivery penalties in 2011, 2012, and 2013.[167] Accordingly, it is incorrect for Dr. Rosenzweig to suggest that we have ignored under-delivery penalties in our But-For Scenario.

141. In any event, even if we were to accept Dr. Rosenzweig's criticism (which we do not) by recording the same undelivered penalties in the But-For Scenario as are calculated in the Actual Scenario, our damages quantum in our first report would be reduced by at most C$ 3,271,078 (assuming a GBL of 0 GWh/year and no additional corrections).[168]

C. Our "Overdesigned" Model Demonstrates That Celgar's Value Is Materially Impacted by the Measures

142. Dr. Rosenzweig claims that our model is overdesigned and that a simpler model would be sufficient for the calculation of damages.

> "Mr. Kaczmarek has provided a cash flow model in Excel of more than one thousand rows. Additionally, he has spent tens of pages of his report explaining the analysis that he has done to forecast a

[166] Expert Report of Michael Rosenzweig, ¶ 143
[167] See Appendix 5.B
[168] We note that this change in our damages quantum will decrease as the GBL increases because in some alternative calculations we had already forecast under-delivery penalties.

> number of inputs to his model such as pulp production levels, the corresponding amount of electricity produced, and future pulp prices. However, by the very nature of a differential analysis, all values which are the same in both the Actual Scenario and the But-For Scenario have no effect on the damages outcome …. In fact, a simple model with as little as four lines is all that would be needed to produce effectively the same damages result."[169]

143. While the simple model proposed by Dr. Rosenzweig could have been performed to arrive at the damages in this case, the purpose of preparing a full valuation of Celgar is to allow the Tribunal to appreciate the impact that the Measures have on the value of Celgar.

144. In Table 8 below, we show the fair market value of Celgar with and without the Measures as of 31 December 2013. As can be seen, when our original damages calculation is corrected for the errors discussed above, the fair market value of Celgar would be between [[[redacted]]] (depending upon the GBL applied) if Celgar had been able to sell additional self-generated electricity below its GBL.

[169] Expert Report of Michael Rosenzweig, ¶¶ 148-149

Table 8 – Diminution in the Fair Market Value of Claimant's Investment in Celgar as of 31 December 2013 (C$ millions)[170]

Damages Scenario	Celgar's Adj. Generator Baseline (GWh)	But-For Scenario FMV (C$ mln)	Actual Scenario FMV (C$ mln)	Diminution in Value (C$ mln)
	[A]	[B]	[C]	[D]=B/C-1
No Load Displacement Obligation and/or Comparable to Skookumchuck Mill's 1997 EPA	0.0	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]			
Celgar's 2001 generation-to-load (Order G-38-01)	186.1			
[redacted]	[redacted]			
Celgar's 2002 generation-to-load (2003 Heritage Contract)	200.0			
Celgar's avg. 2005 & 2006 generation-to-load (Before Project Blue Goose)	271.0			

145. In Section VI below, we prepared a simplified lost profits calculation that only considers the revenues and costs associated with Celgar's sale of its below GBL electricity since 2009.

V. Other Subsidies Received by Celgar and the Returns on Mercer's Investments in Celgar Are Irrelevant

146. Dr. Rosenzweig makes two substantive comments with respect to alleged subsidies received by Celgar and Celgar's return on its capital expenditures.

147. First, Dr. Rosenzweig alleges that we should have considered the impact of subsidies received by Celgar from the Government of Canada through the Pulp and Paper Green Transformation Program ("PPGTP") when calculating our damages claim.

> "…Mr. Kaczmarek has provided no analysis of the effect that Canada's C$ 57.7 million subsidy to Mercer, and the preferentially high prices in BCH's EPA with Celgar, have had on the mill's competitive position. Collectively, these agreements provide strong

[170] See Appendix 5. Before corrections, in our first report we concluded that the diminution in value was between 41 and 12 percent (See Navigant First Expert Report, ¶ 215). We also note that in this second report, we have dis

> financial incentives for Celgar to stay operating even when pulp prices are lowered – Mr. Kaczmarek has not considered how Canada and BCH have helped Celgar's competitive position."[171]

148. However, subsidies received by Mercer or Celgar under the Canadian Pulp and Paper Green Transformation Program are not relevant to Mercer's damages resulting from the Measures. We understand the PPGTP was a federal government program designed to counter U.S. black liquor subsidies and to improve the environmental performance of Canada's pulp and paper industry.[172] Canada's PPGTP was a C$ 1 billion program that allocated credits among 24 companies based on their black liquor production from 1 January and 4 May 2009.[173] The PPGTP funded 98 projects at the 24 companies that received credits.[174] Mercer used its share of PPGTP funding to complete the Green Energy Project at Celgar. Besides Celgar, Howe Sound, the Skookumchuck Mill, and other pulp and paper producers in British Columbia received benefits under the PPGTP, as did pulp producers outside of British Columbia.[175]

149. Second, Dr. Rosenzweig states that Mercer's historical internal rate of return ("IRR") on its capital expenditures in Celgar, namely the Green Energy Project and Project Blue Goose, would increase if Celgar received compensation for the impact of the Measures.

> "Had Claimant been allowed to arbitrage below its load, as it was seeking, the result would be an extraordinary 91% 'adjusted' internal rate of return on the Blue Goose project. Alternatively, if I accounted for the additional subsidy Claimant now seeks as part of its return on its investment in its new turbine (the Green Energy Project), Claimant would see an amazing 130% IRR on that investment."[176]

150. Again, Mercer's historical IRRs on its capital expenditures for the Green Energy Project and Project Blue Goose are not relevant to calculating or evaluating Mercer's damages but-for

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[171] Expert Report of Michael Rosenzweig, ¶ 115
[172] Canadian Forest Service, Pulp and Paper Green Transformation Program, September 2012, p.1 **(NAV-132)**
[173] Canadian Forest Service, Pulp and Paper Green Transformation Program, September 2012, p.1 **(NAV-132)**
[174] Canadian Forest Service, Pulp and Paper Green Transformation Program, September 2012, p.i **(NAV-132)**
[175] Canadian Forest Service, Pulp and Paper Green Transformation Program, September 2012, Figure 1 **(NAV-132)**; Government of Canada Supporting Environmental Improvements at Howe Sound Pulp and Paper Mill **(NAV-133)**
[176] Expert Report of Michael Rosenzweig, ¶ 104

the Measures. Whether Celgar is able to achieve high or low returns on its capital expenditures is irrelevant to determining whether Mercer's investment in Celgar was impacted by the allegedly unfair treatment vis-à-vis Tembec, Howe Sound, and other mills caused by the Measures.

VI. Updates to Our Damages Calculation

151. In our first report, we prepared an *ex-post* assessment of Mercer's losses from its investment in Celgar as of 31 December 2013. Our calculation of Mercer's losses contained two components: (1) the lost profits that Celgar expected to receive from 2009 to 2013 without the Measures in place, and (2) the diminution of the fair market value of Celgar as of 31 December 2013. The damages associated with the Measures are ongoing, as Mercer maintains its ownership and operations in Celgar. Consequently, in this report, we updated our model to calculate Celgar's losses as of 30 June 2014, a date reasonably close to the filing of this report. We have also updated our damages model to address some of the errors identified by Dr. Rosenzweig with which we agree.

152. We have presented two damages calculations in this report. In Subsection A below, we use the methodology employed in our first report wherein we forecasted and calculated Celgar's revenues, costs, and profits for both its pulp and electricity businesses to calculate Celgar's fair market value in the But-For and Actual Scenarios. In Subsection B, we present a condensed calculation suggested by Dr. Rosenzweig that is limited to the revenues and costs associated with Celgar's sales of its electricity below its existing GBL of 349 GWh/year (we note that both damages calculations yield identical results).

A. Claimant's Historical Lost Cash Flows and the Diminution in the Fair Market Value of its Investment in Celgar

153. Using the methodology employed in our first report, we updated our calculation of Mercer's damages due to the Measures to reflect Mercer's historical losses and the diminution in its investment in Celgar as of 30 June 2014. As discussed in Section IV, we modified our damages calculation to reflect the corrections suggested by Dr. Rosenzweig with which we agree.

154. We also made six updates to our model to account for the passage of time and changes in market conditions since our first report. In the paragraphs below, we explain the primary updates to our model.

i. Celgar's Actual Performance through 30 June 2014

155. First, we updated our model to account for Celgar's actual performance from 1 January 2014 to 30 June 2014. In the first half of 2014, [ ][178] Celgar sold [[ ]] ADMT of pulp while producing 212,932 ADMT.[179] Through June 2014, [[ ]][180] Celgar generated [[ ]].[181]

156. We understand that Celgar's pulp production and sales (and in turn electricity generation and sales) were lower than usual in the first half of 2014. Celgar's poor performance was primarily the result of increases in employee inefficiencies due to a workforce restructuring, unanticipated breakdowns at the mill, and a slower than normal start up from the annual maintenance shutdown in June. We understand that production is expected to return to historical levels in the second half of 2014. Accordingly, we have assumed that for the second half of 2014, Celgar's operations will remain in line with previous years.

ii. NBSK Pricing

157. Second, in our first report, we relied on a projection of U.S. NBSK list prices prepared by Hawkins Wright in July 2013. In 2012 and 2013, Celgar's [[ ]]. Accordingly, we forecasted that Celgar would [[ ]] of Hawkins Wright's forecast prices.[182]

158. In our updated model, we rely on an updated projection of U.S. NBSK list prices prepared by Hawkins Wright in July 2014. In this projection, Hawkins Wright forecasts NBSK list prices for the third and fourth quarter of 2014 that are US$ 157/ADMT and US$ 107/ADMT higher than were forecast a year ago. Hawkins Wright also forecasts 2015-2018 U.S. list prices that are US$ 75 to US$ 84/ADMT higher.[183]

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[177] June 2014 Zellstoff Celgar Mill Level Financial Report, PDF p. 21 **(NAV-134)**
[178] June 2014 Zellstoff Celgar Mill Level Financial Report, PDF p. 21 **(NAV-134)**
[179] June 2014 Zellstoff Celgar Mill Level Financial Report, PDF p. 21 **(NAV-134)**
[180] June 2014 Zellstoff Celgar Mill Level Financial Report, PDF p. 29 **(NAV-134)**
[181] June 2014 Zellstoff Celgar Mill Level Financial Report, PDF p. 33 **(NAV-134)**
[182] Navigant Expert Report, ¶ 144
[183] Hawkins Wright Price Forecast 2014 **(NAV-135)**; Hawkins Wright Price Forecast, July 2013 **(NAV-19)**

159. As list prices increase, we understand it is common for discounts to also increase resulting in a relatively flat realized NBSK pulp price.[184] Indeed, Natural Resources Canada stated that while average NBSK prices increased by an average of C$ 150/ADMT over the past decade, actual transaction prices remained nearly flat.[185] Accordingly, in response to the higher U.S. list prices for NBSK pulp, we anticipate Celgar's future sales discounts will need to increase. Thus, we assume that Celgar's future sales discounts will remain at 25 percent in the second half of 2014 and increase to 28 percent in 2015 and 30 percent from 2016 onward.[186]

iii. Pulp Production

160. Third, we updated our projection of pulp production. Celgar's pulp production in the first half of 2014 was significantly lower than Celgar's historical production due to inefficiencies caused by a workforce reduction. We understand that pulp production is expected to increase in the second half of 2014 as these inefficiencies are resolved. Accordingly, we assume that NBSK pulp production will meet the budgeted daily production for the second half of 2014 as shown in the June 2014 monthly report.[187] We understand that pulp production is expected to return to normal levels after 2014 (consistent with Celgar's post-Project Blue Goose production from 2010-2012), which is equivalent to a 6 percent year-over year growth in production from 2014 to 2015.[188] We updated our projection of pulp production to grow at 1 percent a year from 2016-2018, after which no growth is assumed as Celgar will generally be at its sustainable production capacity.[189]

iv. Fiber Prices

161. Fourth, we updated our projection of fiber prices. In our first report, we assumed that Celgar's fiber costs would decline modestly due to the increase in lumber supply. [[[redacted]

[redacted]

[redacted]

[184] Natural Resources Canada, Rising List Pulp Prices Supported by Rising Discounts, 31 January 2014 **(NAV-136)**
[185] Natural Resources Canada, Rising List Pulp Prices Supported by Rising Discounts, 31 January 2014 **(NAV-136)**
[186] See Appendix 3.A and Appendix 3.B
[187] June 2014 Zellstoff Celgar Mill Level Financial Report, PDF p. 4 **(NAV-134)**
[188] See Appendix 3.A and Appendix 3.B
[189] See Appendix 3.A and Appendix 3.B

[redacted]

]][191]

v. Energy Costs

162. Fifth, in our first report, we forecast that FortisBC's Rate Schedule 31 and 33 tariffs would increase by its requested rate increases plus one-eighth of BC Hydro's requested tariff increases as BC Hydro provides FortisBC with nearly an eighth of FortisBC's electricity.[192] As a result, we assumed that FortisBC's tariffs would increase between 4.4 percent and 4.0 percent from 2014-2020.[193]

163. We updated Celgar's forecasted electricity costs to reflect FortisBC's interim BCUC approved tariff. Specifically, FortisBC's Rate Schedules 31 and 33 tariffs were increased by 3.3 percent on an interim basis effective 1 January 2014.[194] As FortisBC's interim tariff increase did not consider any of BC Hydro's requested rate increases, we have not considered BC Hydro's requested rate increases in 2014. However, we have assumed that FortisBC's tariffs will increase by an eighth of BC Hydro's 2014 and 2015 approved tariff increases in 2015. As a result, we assume that FortisBC's tariffs will increase by 5.54 percent in 2015, followed by approximate 4 percent increases from 2016-2020.[195]

164. We also updated BC Hydro's Rate Schedule 1823 tariff to reflect the approved BCUC tariff of C$ 40.59/MWh effective 1 April 2014.[196] The BCUC approved rate for BC Hydro's Rate Schedule 1823 increased to C$ 43.03/MWh effective 1 April 2015 (i.e., equivalent to BC

[190] June 2014 Zellstoff Celgar Mill Level Financial Report, PDF p. 9 **(NAV-134)**
[191] See Appendix 3.A and Appendix 3.B
[192] Navigant Expert Report, ¶ 168
[193] Navigant Expert Report, ¶ 168
[194] FortisBC Rate Schedule 31, 2009-2014, PDF p. 16 **(NAV-125)**; FortisBC Rate Schedule 33, PDF p. 15 **(NAV-126)**
[195] See Appendix 3.D
[196] BC Hydro's Rate Schedule 1823, PDF p. 6 **(NAV-127)**

Hydro's requested rate increases).[197] Accordingly, we maintain our projection that BC Hydro's Rate Schedule 1823 will increase by BC Hydro's requested tariff increases for 2016 onward.[198]

vi. Weighted Average Cost of Capital

165. Sixth, we updated our WACC and its components (the cost of equity and cost of debt) to account for prevailing market conditions as of 30 June 2014. Specifically, we updated the three components of the cost of equity (i.e. the risk free rate, beta, and capital structure).

166. We updated the risk free rate from 4.47 percent to 4.42 percent, which is equal to the average yield on a 20-year Canadian government bond over the past fifteen years to 30 June 2014.[199]

167. We updated our beta calculation to reflect market conditions as of 30 June 2014.[200] As discussed in our first report, since Celgar is not a publicly traded company, it is not possible to directly observe its beta. Therefore, we considered the betas of comparable publicly traded Canadian pulp and paper producers. We updated the betas, market capitalization, and debt for six comparable publicly traded companies that we identified in our first report to reflect data as of 30 June 2014.

168. Lastly, we updated the capital structure for Celgar. In our first report, we erroneously assumed a capital structure of 25 percent debt and 75 percent equity, equal to a debt ratio of 0.33 percent. However, the debt to equity ratios of the comparable companies we considered was 0.26, which results in a capital structure of 20.5 percent debt and 79.5 percent equity. These adjustments change Celgar's levered beta to 0.847 from 0.867.[201]

169. Using a risk free rate of 4.42 percent, a beta of 0.847, and an equity risk premium of 5.50 percent, we calculate the nominal cost of equity for Celgar to be 9.07 percent (compared to 9.23 percent in our first report) as shown in Table 9 below.

[197] BC Hydro's Rate Schedule 1823 **(NAV-127)**; BC Ministry of Energy and Mines, 10-Year Plan for BC Hydro, 26 Nov 2013, p. 23 **(NAV-94);** Revenue Requirements Rate Application, Appendix A, PDF p. 29 **(NAV-137)**
[198] See Appendix 3.D
[199] Bloomberg, Canadian 20-year Bond Yields, 1999-2014, **(NAV-138);** Appendix 4.A
[200] Appendix 4.B
[201] See Appendix 4.B

Table 9 – Celgar's Original and Updated Cost of Equity[202]

Calc.	Components	Original	Updated
	Cost of Equity		
[A]	Risk Free Rate	4.47%	4.42%
[B]	Equity Risk Premium	5.50%	5.50%
[C]	Beta (against SPTSX Index)	0.867	0.847
[D] = B*C	Adjusted Equity Risk Premium	4.77%	4.66%
[E] =A+D	**Cost of Equity**	**9.23%**	**9.07%**

170. We also updated the cost of debt for Celgar. We updated the cost of debt to reflect changes in the yields on comparable companies' publicly traded bonds and for changes in the corporate tax rate as of 30 June 2014. The median cost of debt increased to 6.92 percent from 6.84 percent.[203]

171. Finally, we updated the Canadian corporate tax rate from 26 percent to 26.5 percent to reflect the most recent statutory tax rate as of 30 June 2014.[204] Our updated after-tax cost of debt is 5.09 percent (compared to 5.06 percent) as shown in Table 10 below.

Table 10 – Celgar's Original and Updated Cost of Debt[205]

Calc.	Company	Original Cost of Debt	Updated Cost of Debt
	Canfor Pulp Products Inc.	6.41%	6.41%
	Domtar Corp.	4.42%	4.16%
	Mercer International Inc.	7.27%	7.46%
	Tembec Corp.	8.77%	9.16%
	Resolute Forest Products	7.44%	7.44%
	West Fraser Timber Co. Ltd.	5.20%	5.20%
[A]	**Median**	**6.84%**	**6.92%**
[B]	Canadian Tax Rate	26.0%	26.5%
[C]=A*(1-B)	**Cost of Debt**	**5.06%**	**5.09%**

172. In order to compute the WACC, the cost of equity (9.07 percent) and the after-tax cost of debt (5.09 percent) must each be assigned a weight. As discussed above, we now rely on a debt to equity ratio of 0.26. Using the capital structure of 20.5 percent debt and 79.5 percent equity,

[202] See Appendix 4.A and Navigant Expert Report, Table 10
[203] See Appendix 4.C and Navigant Expert Report, Table 11
[204] KPMG, Corporate Tax Rate Survey, 2014, p.17, **(NAV-139)**
[205] See Appendix 4.A and Appendix 4.C, and Navigant Expert Report Table 11

the updated WACC for Celgar is 8.26 percent (compared to 8.19 percent) as summarized in Table 11 below.

Table 11 – Celgar's Original and Updated Weighted Average Cost of Capital[206]

Calc.	Components	Original	Updated
	WACC Calculation		
[A]	Cost of Equity	9.23%	9.07%
[B]	% of Equity	0.750	0.795
[C]	Cost of Debt	5.06%	5.09%
[D]	% of Debt	0.250	0.205
[E]=A*B+C*D	**WACC**	**8.19%**	**8.26%**

vii. Updated Alternative But-For Scenarios

173. If the Tribunal finds that Celgar should only be entitled to sell some of its below load electricity (rather than all of its below load electricity), then we have provided nine alternative scenarios and their resulting GBLs for Celgar. These alternative GBLs include five from our first report that were based on various levels of Celgar's historical consumption of its self-generated electricity and the access to embedded-cost utility power that the BCUC and BC Hydro provided to competing mills.

174. In this report, we provide four additional scenarios to our damages calculation at the request of Counsel.

175. First, we prepared a scenario that considers the treatment afforded by the BCUC to Tolko Industries Ltd.'s sawmill in Kelowna ("Tolko"). We understand that from 2001-2013, Tolko was afforded a GBL of 2 MW conferred at a time when it was generating 4.7 MW to meet its load, resulting in a Below Load Access Percentage of 57.4 percent.[207] For Celgar, this is equivalent to a GBL of 148.7 GWh/year.[208] Under this scenario, Celgar could sell an additional 200.3 GWh/year of its self-generated electricity.

176. Second, we prepared a scenario that calculates Celgar's GBL using BC Hydro's *generation-to-load* standard and a 2006 baseline. In 2006, the year prior to when Celgar approached FortisBC to facilitate the sale of its self-generated electricity, Celgar's mill load was

[206] See Appendix 4.A, and Navigant Expert Report, Table 12
[207] See Second Expert Report of Elroy Switlishoff, ¶¶ 50-52
[208] Celgar's equivalent GBL is calculated as 349 GWh - (349 GWh x 57.4%) = 148.7 GWh/year.

329.7 GWh and it purchased 61.5 GWh from FortisBC. Under this scenario, Celgar's GBL would be 268.2 GWh/year, allowing Celgar to sell an additional 80.8 GWh/year.[209]

177. Third, we prepared a scenario that sets Celgar's GBL based on the 2007 baseline selected by BC Hydro but using Celgar's level of generation applied to load rather than using Celgar's total load. We calculated this as Celgar's load less Celgar's electricity purchases from FortisBC. In 2007, Celgar's mill load was 349.3 GWh and it purchased 22.6 GWh from FortisBC. Under this scenario, Celgar's GBL would be 326.7 GWh/year, allowing Celgar to sell an additional 22.3 GWh/year.[210]

178. Fourth, we prepared a scenario based on Respondent's claim that Celgar committed, through a 1991 Ministers' Order, to self-supply its load at levels achieved by its 1992-1994 Modernization and Expansion Project. Under this scenario, Celgar's GBL would reflect its average generation-to-load from 1994-2006 (the period after the Modernization and Expansion Project was completed, but before the improvements from Celgar's Blue Goose Project came on-line in 2007).[211] Under this scenario, Celgar's GBL would be 249.7 GWh/year, allowing Celgar to sell an additional 99.3 GWh/year.

179. Also at the request of Counsel, we have withdrawn one damages scenario previously included in our first report. Specifically, we withdrew our damages calculation assuming that Celgar should be entitled to a GBL << [redacted] >> GWh/year, << [redacted] >> We also have modified our GBL calculation for the scenario reflecting the use of a 2002 baseline for Celgar, increasing that GBL to 220.022 GWh/year as the GBL used in our first report was incorrectly computed.

180. In Table 12 below, we outline the Scenarios used in this second report.

[209] Generation-to-load is calculated from the Second Witness Statement of Brian Merwin, Annex A (revised). (2006 Celgar Annual Mill Load less 2006 Annual Purchases from FortisBC).
[210] Generation-to-load is calculated from the Second Witness Statement of Brian Merwin, Annex A (revised). (2007 Celgar Annual Mill Load less 2007 Annual Purchases from FortisBC).
[211] Generation-to-load is calculated from the Second Witness Statement of Brian Merwin, Annex A (revised) (Average 1994-2006 Celgar Annual Mill Load less average 1994-2006 Annual Purchases from FortisBC).

Table 12 – But-For Scenario Alternative GBLs[212]

Damages Scenario	Celgar's Adj. Generator Baseline (GWh)	Celgar's Additional Electricity Available for Sale (GWh)
No Load Displacement Obligation and/or Comparable to Skookumchuck Mill's 1997 EPA	-	349.0
Comparable to Tolko Industries Ltd.'s GBL	148.7	200.3
[redacted]		
Celgar's 2001 generation-to-load (Order G-38-01)	186.1	162.9
[redacted]		
Celgar's 2002 generation-to-load (2003 Heritage Contract)	220.0	129.0
Celgar's avg. 1994-2006 generation-to-load (Ministers' Order)	249.7	99.3
Celgar's 2006 generation-to-load (BC Hydro EPA)	268.2	80.8
Celgar's avg. 2005 & 2006 generation-to-load (Before Project Blue Goose)	271.1	77.9
Celgar's 2007 generation-to-load (BC Hydro EPA)	326.7	22.3

viii. Summary

181. In the event that the Tribunal finds that Celgar should be entitled to sell all of its below load self-generated electricity and purchase replacement embedded-cost utility power from FortisBC, then damages assuming a GBL of 0 GWh/year allowing the sale of an additional 349 GWh/year would be applicable. If the Tribunal finds that Celgar should only be entitled to sell some portion of its below load electricity, then we have provided nine alternative GBL scenarios. These alternative GBLs are based on Celgar's historical consumption of its self-generated

[212] See Appendix 3.A and Appendix 3.B.

electricity and the access to embedded-cost utility power that the BCUC and BC Hydro have provided to competing mills. We present in Table 13 below Mercer's lost historical profits and the diminution in the fair market value of Celgar as a result of the Measures.

Table 13 - Total Lost Profits and Diminution in Value of Celgar as a Result of the Measures as of 30 June 2014 (C$ millions)[213]

Damages Scenario	Celgar's Adj. Generator Baseline (GWh)	But-For Scenario FCFF (C$ mln)	Actual Scenario FCFF (C$ mln)	Historical Lost Cash Flow (C$ mln)	But-For Scenario FMV (C$ mln)	Actual Scenario FMV (C$ mln)	Diminution in Value (C$ mln)	Total Damages (C$ mln)
	[A]	[B]	[C]	[D] = B-C	[E]	[F]	[G] = E-F	[H]=D+G
No Load Displacement Obligation and/or Comparable to Skookumchuck Mill's 1997 EPA	0.0							$ 225
Comparable to Tolko Industries Ltd.'s GBL	148.7							137
Celgar's 2001 generation-to-load (Order G-38-01)	186.1							112
Celgar's 2002 generation-to-load (2003 Heritage Contract)	220.0							89
Celgar's avg. 1994-2006 generation-to-load (Ministers' Order)	249.7							69
Celgar's 2006 generation-to-load (BC Hydro EPA)	268.2							56
Celgar's avg. 2005 & 2006 generation-to-load (Before Project Blue Goose)	271.1							54
Celgar's 2007 generation-to-load (BC Hydro EPA)	326.7							15

182. In this second report, we applied interest to Celgar's historical lost cash flows from the respective date of each cash flow to the current valuation date of 30 June 2014 to compensate Mercer for the time value and opportunity cost of money. As discussed in our first report, there are two different commercial rates of interest we believe are appropriate to calculate the interest due to Mercer. First, the tribunal could award the yield on Canada's sovereign bonds. Second, the tribunal could award the Canadian Prime Rate of interest plus 2 percent. Table 14 below summarizes Mercer's historical period damages after applying the two possible commercial lending rates.

[213] See Appendix 3.A and Appendix 3.B.

Table 14 – Celgar's Historical Period Lost Cash Flows and Interest to 30 June 2014 (C$ millions)[214]

Damages Scenario	Celgar's Adj. Generator Baseline (GWh)	Historical Lost Cash Flows (C$ mln)	Pre-Award Interest (C$ mln)		Lost Cash Flow with Interest (C$ mln)	
			20-Year Bond	Prime + 2%	20-Year Bond	Prime + 2%
	[A]	[B]	[C]	[D]	[E]=B+C	[F]=B+D
No Load Displacement Obligation and/or Comparable to Skookumchuck Mill's 1997 EPA	0.0	[redacted]	$ 9	$ 17	[redacted]	[redacted]
Comparable to Tolko Industries Ltd.'s GBL	148.7		5	10		
[redacted]	160.2		[redacted]	[redacted]		
Celgar's 2001 generation-to-load (Order G-38-01)	186.1		4	8		
[redacted]	187.8		[redacted]	[redacted]		
Celgar's 2002 generation-to-load (2003 Heritage Contract)	220.0		3	6		
Celgar's avg. 1994-2006 generation-to-load (Ministers' Order)	249.7		2	5		
Celgar's 2006 generation-to-load (BC Hydro EPA)	268.2		2	4		
Celgar's avg. 2005 & 2006 generation-to-load (Before Project Blue Goose)	271.1		2	4		
Celgar's 2007 generation-to-load (BC Hydro EPA)	326.7		0	1		

183. In Table 15 below, we show that Mercer's total lost cash flows and diminution in the value of Celgar as a result of the Measures with interest are between C$ 15 million and C$ 242 million, depending upon the GBL and pre-award interest rate applied.

[214] See Appendix 3.A and Appendix 3.B.

Table 15 – Total Lost Profits and Diminution in Value of Celgar Due to the Measures with Interest to 30 June 2014 (C$ millions)[215]

Damages Scenario	Celgar's Adj. Generator Baseline (GWh)	Historical Lost Cash Flows (C$ mln)	Diminution in Value (C$ mln)	Pre-Award Interest (C$ mln)		Total Damages With Interest (C$ mln)	
				20-Year Bond	Prime + 2%	20-Year Bond	Prime + 2%
	[A]	[B]	[C]	[D]	[E]	[F]=B+C	[G]=B+C+E
No Load Displacement Obligation and/or Comparable to Skookumchuck Mill's 1997 EPA	0.0	[redacted]	[redacted]	$ 9	$ 17	**$ 234**	**$ 242**
Comparable to Tolko Industries Ltd.'s GBL	148 7	[redacted]	[redacted]	5	10	**142**	**147**
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Celgar's 2001 generation-to-load (Order G-38-01)	186.1	[redacted]	[redacted]	4	8	**116**	**120**
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Celgar's 2002 generation-to-load (2003 Heritage Contract)	220 0	[redacted]	[redacted]	3	6	**92**	**95**
Celgar's avg. 1994-2006 generation-to-load (Ministers' Order)	249 7	[redacted]	[redacted]	2	5	**71**	**73**
Celgar's 2006 generation-to-load (BC Hydro EPA)	268 2	[redacted]	[redacted]	2	4	**58**	**60**
Celgar's avg. 2005 & 2006 generation-to-load (Before Project Blue Goose)	271.1	[redacted]	[redacted]	2	4	**56**	**57**
Celgar's 2007 generation-to-load (BC Hydro EPA)	326 7	[redacted]	[redacted]	0	1	**15**	**15**

B. Damages Model Solely Related to Power Sales Under the Measures

184. We also produced a "condensed" damages model that only calculates Celgar's incremental revenues from below load sales of electricity at green energy prices and Celgar's incremental electricity purchases of replacement power from FortisBC for the Tribunal and Respondent's convenience. As pulp production, electricity generation, and pulp production costs are the same in our But-For and Actual Scenarios, this condensed calculation eliminates the revenues and costs that are the same in each scenario.[216]

[215] Historical lost cash flows are calculated as Appendix 3.B, Sum of Free Cash Flow to Firm less Appendix 3.A, Sum of Free Cash Flow to Firm. Lost Cash Flow with Interest is calculated as Appendix 3.B NPV of historical period lost free cash flow to the firm at 30 June 2014 less Appendix 3.A, NPV of historical period lost free cash flow to the firm at 30 June 2014.

[216] Although Dr. Rosenzweig contends that this model could be "a simple four line model," (Expert Report of Michael Rosenzweig, Footnote 30 and ¶ 149) there are some minor complications arising from the different pricing formulas for Celgar's purchases of electricity from FortisBC in the But-For and Actual Scenario that result in our simplified model being longer than "four lines". See Appendix 2.

185. Dr. Rosenzweig contends that our damages model could be "a simple four line model." However, this is an oversimplification and ignores the fact that there are other complexities associated with Celgar's electricity sales and purchases in the But-for and Actual Scenarios that result in a more complicated damages model than Dr. Rosenzweig envisions. There are two reasons why our damages model cannot be as simple as four lines. We explain each of these issues in detail below.

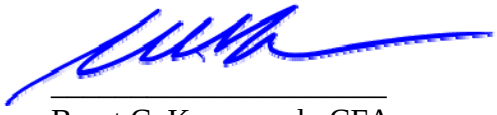
186. First, in the historical period, Celgar's damages arise not just from the Measures prohibiting its sale of its electricity below its GBL, but also from Celgar having been prevented from achieving a higher price consistent with that in the BC Hydro EPA on its Actual Scenario electricity sales. In the Actual Scenario, during 2009 and 2010, before the BC Hydro EPA went into effect, [ ].[217] However, in the But-For Scenario, all of Celgar's below-GBL self-generated electricity is sold at the prices set under the BC Hydro EPA beginning on 31 July 2009.

187. As a result, there are incremental damages in the historical period that result from the difference in the prices that Celgar would have been able to sell its self-generated electricity in the But-For Scenario. Therefore, Celgar's lost revenue in the historical period is not simply limited to its below GBL electricity sales. Instead, it also includes losses arising from the higher green energy price at which Celgar could have sold its electricity volumes in the But-For Scenario.

188. Second, the prices and methods by which Celgar purchases its "replacement" electricity in the Actual and But-For Scenarios are different. Specifically, under the Measures, Celgar is required to purchase electricity for Celgar's entire mill load at the rates set out in Rate Schedule 31. This results in Celgar incurring demand charges related to a firm capacity reservation of 40 MW as well as its related energy fees. Under the Measures, Celgar also is required to < > But-for the Measures, we assume that Celgar will purchase its electricity at the prices in the Fortis BC PSA. It will purchase up to 36 MW of demand under

[217] See, for example, Appendix 3.A, "Realized electricity price" in 2009.

FortisBC Rate Schedule 31, and any additional energy purchases over 36 MW will be purchased under Rate Schedule 33.[218] Accordingly, Celgar also recognizes additional damages arising from the higher fixed demand charges paid in the Actual Scenario vis-à-vis the But-For Scenario. However, Celgar's damages are offset < [redacted] >



Brent C. Kaczmarek, CFA
16 December 2014

[218] Navigant Expert Report, ¶¶ 202-203