Appendix 2

Technical Issues Related to the Errors in Mr. Kaczmarek's Damages Analysis

1.   In response to my first report, Mr. Kaczmarek admits that he made a number of errors in the damages calculation presented in his first report. Additionally, he rejects a number of other errors that I pointed out in my first report. However, the bases on which he rejects my criticisms are flawed. In this appendix I will first briefly discuss the nature of each of the errors that Mr. Kaczmarek acknowledges in his second report, and then discuss each of the additional errors that still persist in his updated analysis, including two new errors that I identified since the filing of my previous report.

A. Mr. Kaczmarek's quantum corrections

2.   In his second report Mr. Kaczmarek confirms three mistakes in his quantitative analysis, which I pointed out in my first report. Mr. Kaczmarek agrees that each mistake he made led him to overstate damages.

3.   First, I noted that "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."[1] Mr. Kaczmarek responded by saying that my "comments are not entirely clear to [him]."[2] Nonetheless, immediately following that statement, Mr. Kaczmarek admits to an error that he "double-count[ed] purchases of electricity"[3]. This is precisely the error to which I was referring. Mr. Kaczmarek has adjusted his modeling, conceding that this error meant that he overstated his damages by about C$ 6 million.[4]

4.   Second, I criticized Mr. Kaczmarek for incorrectly starting his damages calculation on the date of BCUC Order G-48-09, 6 May 2009, rather than using September 2010, when

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[1]   NERA Expert Report, ¶ 141.

[2]   Kaczmarek Second Report, ¶ 138.

[3]   Ibid.

[4]   Ibid.

contractually Celgar began selling energy to BCH at EPA prices.[5] Mr. Kaczmarek partially admits to this error.[6] He has recalculated his damages based on a start date of 31 July 2009, the day the EPA came into effect, lowering damages. However, Mr. Kaczmarek disagrees that damages should start in September 2010, which is when Celgar's new turbine achieved commercial operation (the Celgar-BCH EPA identified firm sales would begin on the new turbine's COD[7]).

5. Mr. Kaczmarek argues that because Mercer seeks damages related to the generation of its existing turbine, the COD of the new turbine is not relevant. Basically, Mr. Kaczmarek's assumption is that if Celgar's GBL were lower, effectively allowing below-load sales from its existing turbine, then it would begin selling power at the EPA rates for firm energy sales before the COD of Celgar's new turbine. However, the mills which received below-historical-load GBLs to incentivize idle generation—the very same mills whose treatment Celgar desires—themselves often have EPAs with sales beginning after the COD of new or refurbished generation assets. So, at the least there is ambiguity in when Celgar would have begun selling at EPA prices in the But-For Scenario. Given this, having the same start date for EPA sales in Mr. Kaczmarek's Actual and But-For Scenarios would be the conservative choice. However, he chooses the less conservative date which yields a higher quantum.[8] While in light of this ambiguity I do not further correct Mr. Kaczmarek's calculations, in the hypothetical that there are damages, if damages were to start on the same date Celgar began to make firm energy EPA sales, then the quantum should be lowered accordingly. There also may be NAFTA-related

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[5]   NERA Expert Report, ¶ 140, first bullet point.

[6]   Kaczmarek Second Report, ¶¶ 133-134.

[7]   Ibid, ¶ 133. COD is commercial operation date. See BC Hydro and Zellstoff Celgar Limited Partnership Electricity Purchase Agreement, January 27, 2009, MER00012857, **NERA-34**, Appendix 3, Clause 3.

[8]   Also, even without a lower GBL, Celgar could have made above GBL firm-energy sales to BCH before the new turbine came online, as it generated more than its GBL from that older turbine alone. Presumably the parties expected this when the EPA was signed (the older turbine's output exceeded Celgar's GBL by 25 GWh in 2008, the year prior to the signing of the EPA), but still the parties agreed to wait until the new turbine's COD before any firm-energy sales could begin.

reasons that limit the start for damages to September 2010.[9] If this is the case, then I reserve the right to update my correction of Mr. Kaczmarek's damages quanta and a preliminary estimate is changes on the order of C$ 26 million in the zero GBL scenario.

6. Third, as I noted in my first report, Mr. Kaczmarek committed a math error in the calculation of average debt to equity ratio of the comparable companies that he chose.[10] Mr. Kaczmarek has updated his analysis to include the corrected debt-to-equity ratio, lowering damages.[11]

7. Correcting for these damages, Mr. Kaczmarek reduces his quantum by about $C 10 million (for his zero GBL scenario). This amount can be inferred from Mr. Kaczmarek's corrected version of the model attached to his first report.[12]

B. Technical errors in Mr. Kaczmarek's updated analysis

1. Mr. Kaczmarek overdesigns his model

8. In his second report, Mr. Kaczmarek agrees that, as I indicated in my first report, a simpler model could also have produced the same damages quantum that was produced by his extensive model of Celgar's entire mill operation. His stated justification for creating a more complex model is to be able to show the diminution of value of Celgar in percentage terms.[13] This seems suspect since this has nothing to do with actual damages. The more complex model appears to be simply a matter of optics.

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[9]   See Section V.A.3 of the main text of my report.

[10] NERA Expert Report, footnote 194.

[11] Kaczmarek Second Report, ¶ 118.

[12] "RESTRICTED_Appendix 5-6_Kaczmarek Second Report_Celgar Mill Valuation Model_Corrected First Report Model.xlsx" "Corrected Kaczmarek Frist Model", **NERA-91**. This model, however, only corrects two of the errors to which Mr. Kaczmarek admits. It does not correct for his admission that damages should start as of the end of July 31, 2009 (Kaczmarek Second Report, ¶ 134). Cells E62 and E107 of worksheet "5.B_Model_But-For" in Corrected Kaczmarek Frist Model should have been corrected to reflect the five months of damages Mr. Kaczmarek assumes for 2009. Once these cells are corrected, it can be seen that the total effect is about C$ 10 million for his zero GBL scenario (worksheet "5.B Summary" shows his previous and corrected damages quanta).

[13] Kaczmarek Second Report, ¶¶ 142-145.

2. Mr. Kaczmarek incorrectly uses a weighted average cost of capital for his discount rate

9.   Mr. Kaczmarek claims that my criticism that a potential third party purchase of Celgar would be likely equity financed is inapt.[14] But Mr. Kaczmarek confuses how firms raise funds for capital needs, versus how funds are actually invested in new assets. He is correct that firms including pulp and paper firms typically *raise capital* through debt and equity.   But this is irrelevant for Mr. Kaczmarek's damages calculation, as Mr. Kaczmarek is modelling how a third-party might actually *acquire* Celgar. When firms raise debt, it generally is corporate debt, which is paid back from the results of total firm operations. This, for example, is different from project financing. Due to the risks of any single project, project financing is generally much more expensive and sometimes can be difficult to obtain.

10.   Therefore, a firm might *raise capital* for a purchase through both (lower-cost corporate) debt and equity, but will actually *pay for* that purchase with cash (or cash equivalents). But this cash purchase is effectively *equity*. If the project fails, *all the money* the firm invested in that project could be lost. Nonetheless, the firm still has to pay back the debt that it raised, as that debt was corporate and not tied to the project. This is the typical financing situation that Mr. Kaczmarek ignores. In any case, the facts of this case support my argument. When Mercer purchased Celgar in 2005, it *raised* both debt and equity funds *at the corporate level*, but it actually paid for Celgar with cash and cash equivalents.[15] So it is Mercer's shareholders that are at risk with the Celgar acquisition.

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[14]   Ibid, ¶¶ 112 to 115.

[15]   Specifically, Mercer paid cash plus Mercer shares plus an amount for Celgar's working capital that it would assume. The mill was acquired using proceeds from capital Mercer raised *at the corporate level* of about US $378 million. Mercer used this money not just for buying Celgar, but also for repaying debt at its Rosenthal mill and for corporate working capital. See "Mercer International Inc. announces completion of the acquisition of the Celgar NBSN pulp mill and note and share offerings", Mercer Press Release, "Mercer International Inc. Announces Completion of the Acquisition of the Celgar NBSK Pulp Mill and Note and Share Offerings," dated 14 February 2005, **NERA-92**.

Mercer would need to receive an equity return for its investment to properly compensate its shareholders – presumably a third-party investor would do the same.[16]

3. Mr. Kaczmarek's calculation of the cost of equity for a potential purchaser of Celgar is flawed

11. In my first report, in addition to noting the inappropriateness of Mr. Kaczmarek's use of a WACC as the discount rate for his analysis, I also criticized his calculation of the cost of equity that a hypothetical buyer of the Celgar mill would use. Mr. Kaczmarek also responds to this criticism in his second report.[17]

12. I criticized Mr. Kaczmarek for estimating a company-wide cost of equity rather than the return on equity for investing in a project such as Celgar.[18] Mr. Kaczmarek responds that he assumed that the investor already is diversified through the assets and companies in which it has ownership stakes, citing Prof. Aswath Damodaran. However, this diversification argument applies to investing in a trading context for securities not to the purchase of a long term asset.

13. Similarly, I criticized Mr. Kaczmarek for not addressing risks that might apply to Celgar specifically. I noted that Mercer's internal documents appear to show that Celgar's EBITDA volatility was higher than the volatility of Mercer's other mills.[19] Mr. Kaczmarek responds by pointing out that Celgar's EBIDTA volatility is largely driven by fiber costs.[20] This may or not be correct, but this does not respond to the point that Celgar may be *more* volatile than other mills (at least compared to other Mercer mills) and that this volatility would influence the return demanded by a purchaser.

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[16] Because Mercer's Weighted Average Cost of Capital ("WACC") is far less than its required return on equity, this error overstates damages.

[17] NERA Expert Report, ¶¶ 136-138 and Kaczmarek Second Report, ¶¶ 119-130.

[18] NERA Expert Report, ¶¶ 136-137.

[19] Ibid, ¶138.

[20] Kaczmarek Second Report, ¶ 130.

14.   I also mentioned the 63 risks identified in internal Mercer documents.[21] Mr. Kaczmarek points out that (by his count) 53 of the Mercer risks are not Celgar-specific (and some of those are specific to Mercer's German mills) and 10 risks are Celgar-specific (though he claims eight of those Mercer has mitigated).[22] This does not refute the point that Celgar faces many risks (even if not all are Celgar-specific), and that a purchaser of Celgar would likely consider these risks. Mr. Kaczmarek fails to account for these risks in his calculations.

15.   More generally, I also highlighted the fact that the mills addressed in the present proceeding involve numerous bankruptcies, ownership changes, and temporary shutdowns – all of which point to risks that a potential buyer of Celgar would consider.[23] Mr. Kaczmarek does not respond to this criticism.

16.   In justifying his calculation of the cost of equity calculation in his second report, Mr. Kaczmarek pointed out that his calculations were based on the "standard" method of the Capital Asset Pricing Method ("CAPM").[24] However, what he fails to acknowledge is that while CAPM is a *popular* methodology for estimating the cost of equity for highly liquid stocks of publically traded companies, it is both an indirect and inapt method for estimating the return that an investor would require on its equity investment in a risky, single asset such as Celgar.

17.   Further, there are a number of underlying flaws with the CAPM method: (i) CAPM is an indirect approach that relies on market assumptions and information not specific to the company, (ii) CAPM may not capture the idiosyncrasies of the market where the company under analysis is located, (iii) CAPM is not a forward-looking methodology, (iv) CAPM's input data may require the use of proxies and rely on statistical analysis that has several shortfalls, and (v) CAPM is volatile and it changes as the market changes.
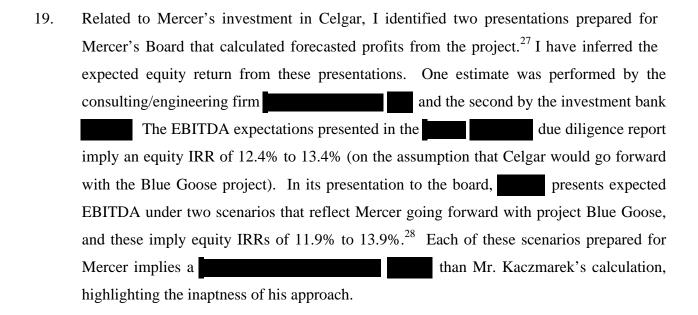
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[21]   NERA Expert Report, ¶138.

[22]   Kaczmarek Second Report, ¶¶ 123-127.

[23]   NERA Expert Report, ¶138.

[24]   Kaczmarek Second Report, ¶ 124.

18. By ignoring the idiosyncratic risks of Celgar and by using an inappropriate methodology, Mr. Kaczmarek's underestimates the cost of equity to be 9.07%. [25] However, this estimate is ██ ████████████████████████████][26] Often, a company will clearly state (at least in its internal documents) what return expectations it is relying on to justify its investment. When this is available, this is the best measure of cost of equity for an investment.

19. Related to Mercer's investment in Celgar, I identified two presentations prepared for Mercer's Board that calculated forecasted profits from the project.[27] I have inferred the expected equity return from these presentations. One estimate was performed by the consulting/engineering firm ████████████ and the second by the investment bank █████ The EBITDA expectations presented in the ████ ████ due diligence report imply an equity IRR of 12.4% to 13.4% (on the assumption that Celgar would go forward with the Blue Goose project). In its presentation to the board, █████ presents expected EBITDA under two scenarios that reflect Mercer going forward with project Blue Goose, and these imply equity IRRs of 11.9% to 13.9%.[28] Each of these scenarios prepared for Mercer implies a █████████████████████████ than Mr. Kaczmarek's calculation, highlighting the inaptness of his approach.

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[25] Ibid, ¶ 169

[26] While Mr. Kaczmarek's theory is that a third-party investor would buy Celgar, the actual, historical demanded return on equity from an actual investment in Celgar (in this case, by Mercer) is far more apt than Mr. Kaczmarek's statistical approximations of (purportedly) comparable firms' company-wide costs of equity.

[27] Jaakko Poyry NLK Inc., 18 November 2004, "Project Next Step – Technical Due Diligence for Mercer International Inc, -- Draft.", **NERA-93**, and CIBC World Markets, November 19, 2004, "Presentation to the Board of Trustees of Mercer International Inc.", **NERA-94**.

[28] See Appendix 3.B, worksheet "Appendix 3.B.6 -Acquisition IRR" for my calculation of these IRRs. I note that I have made several conservative assumptions in calculating these IRR figures (see that worksheet and Appendix 3.A, Section B).

4. Mr. Kaczmarek's calculation of under generation penalties in the but-for world is flawed

20.   Mr. Kaczmarek rejects my criticism that he improperly ignores penalties in the But-For Scenario for not delivering the required EPA energy amounts.[29] However, his rejection is based on a fundamental misunderstanding of how contracts for firm energy purchase work. Namely, the purpose of the penalties associated with under-generation is to incentivize the seller meeting its delivery obligations. These penalties are an essential component of the EPA contracts. Self-generators receive the benefit of selling a defined amount of energy on a firm (i.e., uninterrupted) basis only if they accept the risk of having to pay under-generation penalties if they fail to meet that firm supply commitment. Therefore, the amount of firm energy that a generator can sell to BCH at the incentivized rates <u>must</u> be the same as the threshold for under-generation penalties. By failing to properly adjust this penalty threshold to represent the firm energy amounts in his But-For Scenarios, Mr. Kaczmarek continues to overstate damages in each of his scenarios.

21.   Specifically, Mr. Kaczmarek never specifies the precise level of firm energy that he assumes that BCH (or BCH plus a third party) has contracted for from Celgar in his But-for scenario. However, taking his zero GBL scenario as an example, the *contracted* amount of firm energy he assumes in the But-for scenario must be at least 546 GWh/year, as he assumes sales at firm energy EPA prices of this amount in the highest-sales year he has modelled.[30]

22.   More realistically, Celgar's firm energy *contracted* amount would be 566 GWh in Mr. Kaczmarek's zero GBL scenario, as this is the firm energy contracted amount in Celgar's actual EPA with BCH (238 GWh) *plus* the below-GBL generation Celgar desires to sell

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[29] Kaczmarek Second Report, ¶¶ 139-141.

[30] **NERA-91**, worksheet "3.B_Model_But-For", cell P69 (his assumed sales in 2020). While this is from Mr. Kaczmarek's (corrected) first damages model, which assumes slightly higher sales from Celgar than his second model, Mr. Kaczmarek has made no indication that he assumes a different firm sales amount in his updated modeling. Also, my conclusions would not change even if I took the highest firm energy sales year from his second model.

(328 GWh[31]). However, regardless of whether Celgar contracts for 546 GWh or 566 GWh of firm energy, Mr. Kaczmarek continues to maintain that Celgar is only obliged to provide 238 GWh to avoid penalties.

23.   For example, Celgar's 2013 generation would lead to 442 GWh of firm energy sales in his zero GBL scenario,[32] well below the corrected firm energy contracted amount of 566 GWh, but Mr. Kaczmarek erroneously continues to model that Celgar would pay no penalties in this situation.[33]

5. Additional errors identified in Mr. Kaczmarek's model

24.   In preparing my rejoinder report, I identified two additional errors in Mr. Kaczmarek's damages model. One of these errors – failing to account for FortisBC transmission tariffs that Celgar would need to pay in order to deliver its additional energy – represents a misunderstanding of the full cost of Celgar selling additional power to third parties (or to BCH). The second error – miscalculating the interest on the historical damages he calculates – is a calculation error in his Excel model. I discuss each of these in turn.

i.   Failure to account for transmission tariffs

25.   Mr. Kaczmarek's damages model assumes that Celgar does not pay any transmission tariffs to FortisBC (other than in the form of line losses) on the electricity that it delivers to BCH, via the FortisBC system. However, as pointed out by Mr. Swanson of FortisBC, Celgar is responsible for paying transmission tariffs under Rate Schedules 103 and 104 on any electricity that it transmits over the FortisBC grid.[34] Celgar has to pay these

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[31]   This is Celgar's GBL of 349 GWh times (100% - 6.08%), where 6.08% represents its transmission losses (see **NERA-91**, worksheet "3.B_Model_But-For", cell C68).

[32]   See Kaczmarek Second Model, **NERA-79**, worksheet "3.B_Model_But-For", cell I69, when Mr. Kaczmarek's zero GBL scenario is turned on in that model.

[33]   This error applies in each of Mr. Kaczmarek's scenarios because any decrease in Celgar's GBL would result in an equivalent increase in its contractual obligation to deliver. Therefore, Mr. Kaczmarek is incorrect when he rejects my criticism in ¶ 140 of his second report. Mr. Kaczmarek says I am wrong because he includes penalties in some scenarios. While he does include penalties in some scenarios, this does not change the fact that he under-calculates penalties in all his scenarios, even those where he has some penalties.

[34]   Swanson Second Witness Statement, ¶ 24.

tariffs on the above-GBL electricity that it sells to BCH under its existing EPA. However, if Celgar were allowed to sell additional, below-GBL, electricity to BCH, it would need to pay these tariffs on that electricity as well.[35] By ignoring these costs, Mr. Kaczmarek overstates damages.[36]

ii. Incorrect calculation of accrued interest on lost profits

26.   Mr. Kaczmarek's damages model has two errors in the way that it applies his interest rates to his calculation of historical damages. The first is an error that was present in his previous calculation of damages and persists in the calculation associated with his second expert report. This is a formula error in his calculation of cumulative interest, which results in the double counting of interest for each year between 2009 and 2014. The second error is also a calculation error and appears in the formula that he uses to calculate interest for half years. This error is new to his updated damages model. Both of these calculation errors result in the overstatement of damages.

C. Alternative damages correction table

27.   As I stated in my report, Mr. Kaczmarek has calculated damages using two different interest rates to bring damages in the historic period forward. In my report I presented a table showing the corrected calculations based on Mr. Kaczmarek's damages using the Canadian Prime rate + 2%. Below is a similar table correcting for Mr. Kaczmarek's damages calculations using his 20-Year Canadian bond rate.

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[35]   The combined per unit cost of these tariffs was C$ 2.31 / MWh in 2014.

[36]   Due to this error alone, Mr. Kaczmarek has overstated damages by about C$ 9 million, considering his zero GBL scenario.

Table A2.1: Correction of Mr. Kaczmarek's Damages Calculations
Using Canadian 20-Year Bond Rate[37]

Mr. Kaczmarek's Damages Scenario	GBL (MWh)	Mr. Kaczmarek's Uncorrected Damages (C$ '000s)	Mr. Kaczmarek's Corrected Damages (C$ '000s)	Overstatement in Damages (C$ '000s)	Percentage Overstatement (%)
No Load Displacement Obligation and/or Comparable to Skookumchuck Mill's 1997 EPA	▉	▉	▉	▉	70%
Comparable to Tolko Industries Ltd.'s GBL	148,674	142,451	81,182	61,270	75%
Comparable to Howe Sound's 2010 EPA	▉		▉	▉	76%
Celgar's 2001 generation-to-load (Order G-38-01)	186,123	116,103	65,305	50,797	78%
Levels comparable to Skookumchuck Mill's 2009 EPA	▉	▉	▉	▉	78%
Celgar's 2002 generation-to-load (2003 Heritage Contract)	220,022	92,186	50,934	41,252	81%
Celgar's avg. 1994-2006 generation-to-load (Ministers' Order)	249,700	71,050	38,352	32,699	85%
Celgar's 2006 generation-to-load (BC Hydro EPA)	268,200	57,808	30,509	27,299	89%
Celgar's avg. 2005 & 2006 generation-to-load (Before Project Blue Goose)	271,095	55,720	29,281	26,439	90%
Celgar's 2007 generation-to-load (BC Hydro EPA)	326,715	14,814	5,692	9,122	160%

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[37]   Appendix 3.B, worksheet "Appendix 3.B.2 - Summary".