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Before the

ADDITIONAL FACILITY OF THE
INTERNATIONAL CENTER FOR SETTLEMENT OF INVESTMENT DISPUTES

Mercer International Inc.,

Claimant,

v.

Government of Canada,

Respondent.

ICSID Case No. ARB(AF)/12/3

WITNESS STATEMENT OF BRIAN MERWIN

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I, Brian Merwin, hereby declare as follows:

INTRODUCTION

1. I am Vice-President Strategic Initiatives for Mercer International Inc. ("Mercer"), the largest Northern Bleached Softwood Kraft ("NBSK" or "kraft") market pulp producer in the world. My date of birth is [[redacted]], and I currently reside at [[redacted]]. I offer this testimony to recount my personal knowledge and experience of the treatment to which the Province of British Columbia has subjected Mercer's significant investment in Canada, the Zellstoff Celgar Mill ("Celgar" or "Celgar Mill"). The Celgar Mill is one of the largest and most modern kraft pulp mills in North America, which utilizes an integrated, joint production process to produce market pulp and to generate electric power.

2. My testimony is organized in the following manner: I first provide background on my education and professional experience. I then describe Mercer and NBSK mills more generally. I next explain Mercer's investment in and improvement of the Celgar Mill. I next describe Celgar's engagement with FortisBC and BC Hydro in the electricity market, and then describe aspects of the treatment Celgar received from the BC government and BC Hydro when it attempted to sell its generation. I describe the ways in which their treatment of the Celgar Mill has harmed Mercer and the damages that flow from that harm. Finally, I explain the market for renewable green energy and the characteristics that distinguish Celgar and NBSK mills from other self-generators.

I. EDUCATION AND PROFESSIONAL BACKGROUND

A. Higher Education

3. I obtained a Bachelor of Commerce degree from the University of British Columbia in 1998. In 2004, I obtained Masters of Business Administration from the Richard Ivey School of Business (University of Western Ontario), graduating in the top 10 percent of my class.

B. Professional Experience and Experience in the Kraft Pulp Industry

4. Prior to joining Mercer, I co-founded UCANU Manufacturing Corp., a company that specialized in the technological development, advancement and production of large capital equipment for industrial users in the oil and gas mining and exploration sectors.

5. I began my career at Mercer as a Business Analyst in May 2005, reporting directly to the CEO. In that capacity, I prepared support analysis on acquisitions, asset performance, and new business opportunities. I was also tasked with improving the competiveness of the Celgar Mill by identifying cost saving and revenue opportunities. In particular, I worked on addressing the Celgar Mill's poor electricity revenue performance relative to the performance of Mercer's German mills at the time.

6. Approximately two years later, in August of 2007, I was promoted to Mercer's Director of Strategic and Business Initiatives. During this time, my responsibilities grew to include, among other things, the development of the Celgar Mill's electricity sales. In 2009, I was again promoted to Mercer's Vice-President Strategic Initiatives. As Vice-President Strategic Initiatives, my attention remained largely on the areas I had been focusing on throughout my time at Mercer; however, as Vice-President I was given greater autonomy to execute initiatives and set direction of my work. Through my years of experience at Mercer, I have developed an in-depth knowledge of the Celgar Mill, its operations, and the treatment it has received from the Province of British Columbia (the "Province" or "BC").

7. Since beginning my career at Mercer in 2005, I have become very familiar with mills engaged in the joint production of pulp and electricity, as well as with the pulp industry in general. The pulp market is fairly straightforward: it is global and has relatively few players. When demand decreases for pulp, prices decrease, and the highest production-cost mills are forced to shut when their revenues fall below their variable costs. Mercer's investment priority with regard to the Celgar Mill has therefore been to maximize its efficiency so as to be a low cost producer.

II. NBSK Pulp Mills and the Economics of Pulp Mill Electricity Generation

A. Understanding the Kraft Pulp Mill

8. It is helpful to have a basic understanding of how a kraft pulp mill works to understand the economics of pulp mill electricity generation. A kraft pulp mill consumes low quality wood fibre in the form of wood chips, which are either purchased from sawmills (a byproduct of making lumber) or chipped from logs that are left over from logging operations (logs that are too low in quality to be made into lumber).[1] This fibre either can be burned directly by an independent power producer as fuel to generate electricity, or it can go to a kraft pulp mill where, through chemical processes, high value materials (mostly cellulose) are extracted from the pulp before the remains are then used to generate electricity. These remains, comprised of a liquid mixture of lignin residues, hemicellulose, and spent chemicals are called "black liquor."

9. Kraft pulp mills thus provide a highly efficient mode of product extraction and energy generation; where an ordinary power generator would burn a ton of wood fibre to generate electricity, a kraft pulp mill would extract 47 percent of that ton as high value pulp products and would burn only 53 percent of that ton of wood fibre to generate electricity.

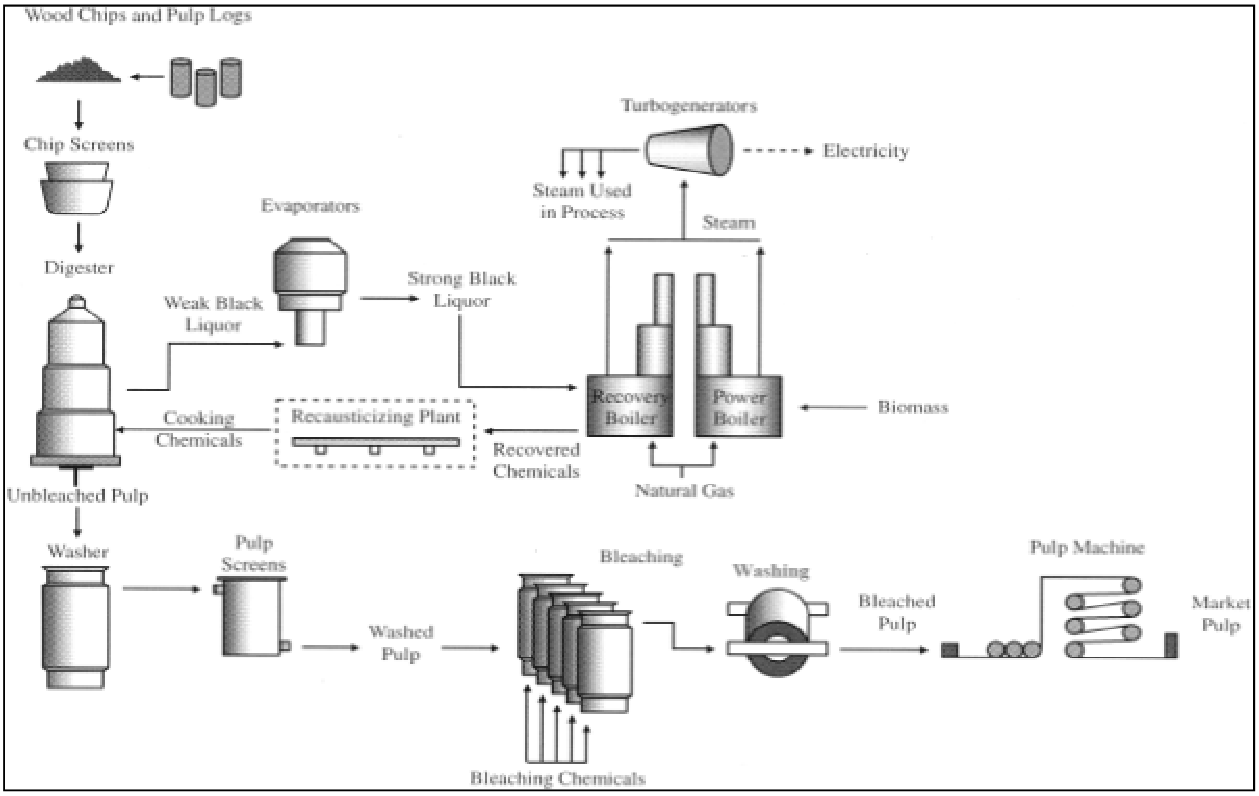
[1] Wood chips typically account for some 50-60 percent of the cash production costs for a kraft pulp mill.

10. Not only is a kraft pulp mill a more efficient way to extract valuable products from low quality wood fibre, but also it functions in a strong symbiotic relationship with nearby sawmills. You cannot have one without the other, as a sawmill cannot be successful economically if it cannot sell its wood chip byproduct at market prices.[2] [[redacted]].

11. Similarly, a kraft pulp mill cannot obtain revenue from black liquor by producing energy if it does not have wood chips to process for the pulp production. Today, a kraft pulp mill that only sells the pulp it produces cannot be successful and will ultimately fail. Due to the interrelated nature of pulp mills and sawmills, when a pulp mill fails, the forest economy fails as well, along with the thousands of jobs the forest economy creates. I will now review the details of how a kraft pulp mill works. To simplify the complex operations, I will focus on two interrelated systems (the Green Energy System and the Kraft Pulp System) that are linked by a piece of pulp mill equipment called a digester. The systems have many complex synergistic linkages, including the way in which the systems (1) concentrate material in the wastewater from the washers and it becomes part of the black liquor, (2) use waste heat from black liquor concentration to heat the bleach plant (3) utilize a chemical byproduct of the bleach making process to supplement black liquor recovery, and (4) burn the black liquor to generate high pressure steam, which is used to power the generator and create low pressure steam, which is used in the pulp machine, the washing and the bleaching steps. This system connection is depicted graphically in Figure 1 below.

[2] Approximately 40 percent of a log becomes wood chips, with 10 percent becoming sawdust and bark, and only 50 percent becoming lumber. Wood chips are therefore an important revenue source for a sawmill to be economically sustainable.

Figure 1



12. First, we feed wood chips (or other types of wood fibre) into the digester where they are "cooked" with a mixture of chemicals. The cooking process breaks down the wood into its subcomponents, cellulose and energy-rich lignins. Second, the materials are separated in multiple stages of washers, where the cellulose is sent to the Kraft Pulp System and the lignins and cooking chemicals, collectively known as "black liquor", are sent to the Green Energy System as a fuel source to create steam. This steam can in turn be used to generate electricity and, after being used for electricity generation, to provide heat for the Kraft Pulp System. The cellulose in the Kraft Pulp System is further washed, bleached to achieve a bright white appearance, and dried before being sent to customers.

13. An important detail to keep in mind while considering this process: inefficiencies in the washing and separating system prior to the bleaching process will lead to a disproportionate

waste of lignin, that is, the waste of valuable fuel, which is essentially flushed into a sewage treatment system. Older kraft mills have inefficient washers that result in significant waste. Modern kraft mills, however, are able to capture almost 100 percent of the lignins, converting it to a green fuel source.

14. In the Green Energy System, we burn black liquor in a recovery boiler to create high pressure steam.[3] That high pressure steam is in turn used to power a turbine to generate electricity, and the remaining low pressure steam, after having passed through the turbine, is used as heat for pulp mill thermal requirements. The electricity can be used to meet the electricity needs (or "load") of the mill itself, or made available for sale on the market, or both. The recovery boiler also allows the cooking chemicals to be recycled for re-use in the digester.

15. In addition, most mills, including the Celgar Mill, operate a power boiler, which consumes wood waste (such as bark and sawdust) that cannot be utilized in the kraft process for making pulp. This wood waste is only capable of being used to generate steam that then can be used for power generation and supplemental heat for the pulp mill. A power boiler is the same piece of equipment that a standalone biomass power plant would utilize for power generation.

16. Historically, in British Columbia pulp mills, the energy, or "load", requirements of a mill's Kraft Pulp System were significantly greater than the energy generated by the mill's Green Energy System. In other words, a British Columbia kraft pulp mill would ordinarily be unable to generate enough electricity to run its pulp processing operations. Therefore, in order to meet its load, a kraft pulp mill with self-generation capacity would utilize both self-generated electricity and electricity purchased from its utility to meet its load.

[3] In British Columbia, black liquor generally has no alternative uses.

B. Understanding Electricity Use at Zellstoff Celgar

1. Electricity Intensity

17. Electricity is utilized to run the machinery and pumps that manufacture kraft pulp. The machinery and pumps run almost constantly, 24 hours per day, 350 days per year; production cannot be varied in response to changes in demand.[4] This means the machinery and pumps have a very high "load factor". The electricity demands of such an operation are significant. For instance, in 2012, BC Hydro's pulp and paper mill customers consumed 6,046 GWh of BC Hydro electricity, which represented 37 percent of BC Hydro's electricity sales to industrial customers.[5]

18. There are two main types of pulp production in British Columbia:

1. The chemithermomechanical pulping (or "CTMP") process, which on average uses 2.2 MWh of electricity for every tonne of pulp manufactured. Plants utilizing the CTMP process do not have any self-generation, because they do not produce black liquor, and purchase very significant quantities of electricity to run their operations.

2. The NBSK (kraft) process, which on average uses approximately 0.85 MWh of electricity for every tonne of pulp manufactured. These plants have self-generation capacity and currently purchase varying amounts of embedded cost electricity to run their operations.

19. The Celgar Mill utilizes the kraft process for manufacturing pulp, and only requires [[[redacted]]] of electricity per tonne of pulp produced. In fact, the Celgar Mill operates the most electrically efficient pulp mill in British Columbia, when measured in terms of the amount of electricity utilized per tonne of pulp, a metric called "electricity intensity". The following table

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4 Due to the near constant demands on Mill equipment, maintenance is critical. The Celgar Mill typically will take a 10-14 day planned outage each year, during which maintenance on the recovery boiler is performed. The Mill will also perform other routine maintenance at this time.

5 *See* C-189, BC Hydro Integrated Resource Plan Appendix 2A 2012 Electric Load Forecast (November 2013) at 36, 46, and Table 8.1.

(Figure 2) sets out the results of an electrical intensity survey of NBSK Mills in British Columbia conducted by Pricewaterhouse Coopers ("PwC") in 2005.

Figure 2

PwC Electricity Intensity Survey of BC NBSK Mills

# of BC Mills	Celgar Rank	Celgar Intensity (MWh/tonne)	BC Average (MWh/tonne)	Top Quartile (MWh/tonne)	Median (MWh/tonne)	Bottom Quartile (MWh/tonne)
10	1	0.75	0.85	0.8	0.88	0.91

* last year of annual survey was 2005, trends do not change as intensity is equipment dependent

20. Another way of putting Celgar's energy use and efficiency in perspective is to examine the electricity utilized per tonne of pulp produced by the BC pulp and paper sector, excluding Celgar. Together, all other mills in the BC pulp and paper sector purchased 6,046,000 MWh of electricity from BC Hydro to process approximately 22,302,474 cubic meters of wood fibre into pulp and paper. As a result, they purchased 0.27 MWh of purchased electricity for every cubic meter of wood consumed. By comparison Celgar used [[redacted]] of electricity to process 2,610,526 cubic metres of wood into pulp for export. If Celgar purchased its entire power use, it would purchase only [[[redacted]]] of purchased electricity for every cubic meter of wood consumed — almost half of the electricity intensity relative to what is purchased, on average, by the BC pulp and paper industry in BC. Currently, however, due to the actions of the Province, Celgar can only purchase [[[redacted]]] for every cubic metre of wood it has consumed, or less than 5 percent what the average pulp and paper facility in British Columbia is allowed to purchase. Celgar must generate the rest of the electricity it needs on its own.

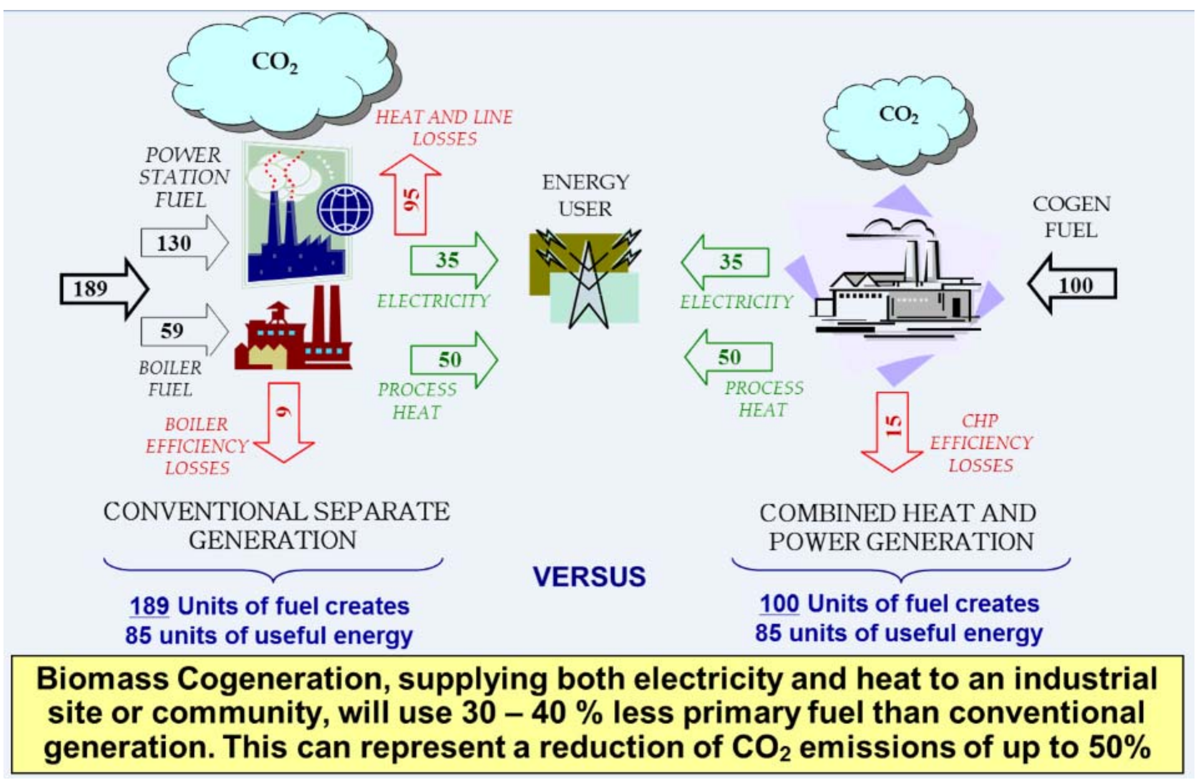
2. *Kraft Pulp and Electricity Generation Basics*

21. To my knowledge, there are no kraft pulp mills that do not have the capability to self generate electricity. Every kraft pulp mill needs self-generation to utilize the remainder of its wood fibre input that is not used to produce pulp, and also to address efficiently the large amount

of heat required in a pulp mill. Self-generation allows a mill simultaneously to generate heat for its drying processes, and electricity, through Combined Heat and Power Generation ("CHP"), generally known as "cogeneration." This synergy makes kraft pulp electricity generation highly competitive with stand alone biomass generation, when producers compete in a bid or power call for selling this self-generation output.

22. While all kraft pulp mills have self-generation capacity, not all mills have the latest self-generation or process technology. A kraft pulp mill must invest in CHP and have up to date technology in order to use the massive amounts of fuel it burns in the most efficient way possible. The efficiencies of CHP are depicted in Figure 3 below. All things being equal, investments in CHP technology are advantageous during times of high fuel costs, because an efficient mill with CHP technology will require less supplemental fuel than its less efficient competitors.

Figure 3



23. The pulp mill's energy system and its pulp system are thus critically linked, both by interdependent production processes and economically. If pulp production is not occurring, there is no wood fibre going into the digester, and hence no black liquor is being produced to fuel the generation of electricity. The Mill has some ability to store black liquor when the digester is not running, but this storage can accommodate an amount of black liquor that would yield only a few hours of generation. To produce electricity, the Celgar Mill needs its full workforce engaged in the production of pulp, which generates black liquor. To be clear, it simply is not possible to shut the Mill down and stop producing pulp, while continuing to produce electricity.

24. The pulp production process utilizes significant quantities of thermal energy; thus, the amount of steam required to run the pulp mill will affect how much electricity the mill generates. In the middle of winter, the mill requires more heat, and therefore increased amounts of steam are directed to the mill's heating needs, instead of being directed to electricity production. Accordingly, the level of electricity generation in the winter months generally is lower than in months when the mill requires less heating.

25. While the mill's heating needs have an impact on the amount of electricity that can be generated, the level of pulp production is by far the greatest determinant of how much black liquor, and correspondingly, how much electricity a mill will generate.

26. Kraft pulp mills sometimes use natural gas as a fuel, supplemental to black liquor, to generate electricity. Throughout the 1990's, prices for natural gas were low, and kraft pulp mills, including Celgar, increased their consumption of natural gas to generate electricity. This practice continued until the rise in natural gas prices in toward the end of 2000 made it

uneconomical.[6] At that time, Celgar made a decision to refrain from burning natural gas to generate electricity, opting instead to purchase electricity from its utility (FortisBC) to meet electricity requirements. The mill's electricity generation declined [[redacted]] from 278.8 MWh in 2000 to 190.5 MWh in 2001 — a drop of 32 percent.[7]

27. While we have cut natural gas consumption significantly at the Celgar Mill since the 2000 price hike, it has not been eliminated fully. A minimal amount of natural gas is needed in the Mill to keep certain equipment operational (much like the function of a pilot light on a home kitchen stove), and to supplement the generation of electricity when the Mill experiences operational upsets. Since 2003, the Mill's natural gas consumption has been limited to this type of provisional usage.[8]

III. MERCER'S INVESTMENT IN THE CELGAR MILL: 2005 TO PRESENT

28. The Celgar Mill is now a large-scale, modern NBSK mill.[9] It is a single line mill with two pulp drying machines and a current annual rated production capacity of approximately 520,000 ADMTs of kraft pulp. It also has two turbines and generators with respective nameplate capacities of 48 MW and 52 MW, for a total rated electricity generation capacity of 100 MW.

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[6] Celgar's natural gas consumption from 1992 through 2000 ranged between 1.9 and 3.8 million gigajoules per year. Celgar's natural gas consumption fell to 1.4 and 1.0 million gigajoules respectively in 2001 and 2000, [[redacted]] *See* Annex A, Celgar Operational Data 1990-2013.

[7] *See* Annex A, Celgar Operational Data 1990-2013.

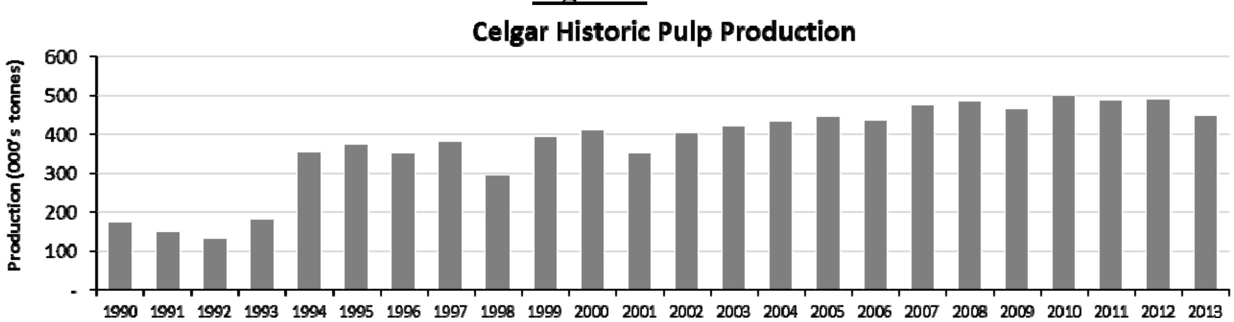
[8] *See* Annex A, Celgar Operational Data 1990-2013.

[9] The Province classifies Celgar as a pulp mill rather than as an electric utility or independent power producer, and the Mill is not regulated as an electric utility. For statistical purposes, Celgar is classified under North American industry Classification System (NAICS) classification code 322110. This classification is for pulp manufacturing. The NAICS system is used both in Canada and the United States, and was developed jointly by the U.S. Economic Policy Committee, Statistics Canada, and Mexico's Instituto Nacional de Estadística y Geografía for common use in North America.

Since 2011, Celgar has produced on average [[redacted]] of electricity for every air dried metric tonne of pulp. In 2013, Celgar produced 447,935 ADMT of pulp, and pulp sales in 2013 accounted for over [[[redacted]]] percent of the Celgar Mill's revenue. Celgar also sold 127,729 megawatt hours ("MWh") of electricity in 2013, recognizing approximately C$ 12.6 million in annual electricity sales revenue.[10]

29. In the future, I expect Celgar's operational reliability will [[[redacted]]] For perspective, our German mills, Rosenthal and Stendal, generate [[[redacted]]] Celgar is the only kraft pulp mill in British Columbia that has significantly grown its pulp and electricity production in the last several years, while the rest of the industry in British Columbia has stagnated. The following charts demonstrate the pulp and electricity generation of the Celgar Mill from 1990 to 2013.[11]

Figure 4



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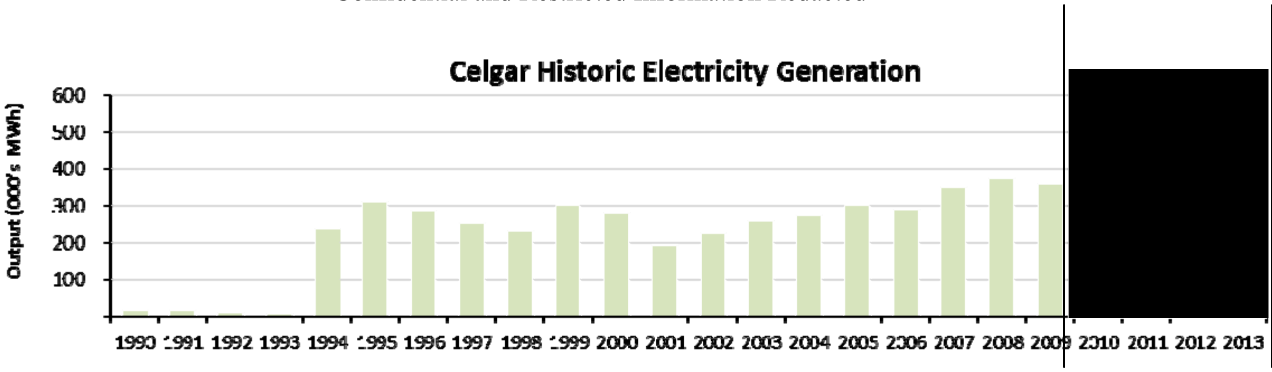
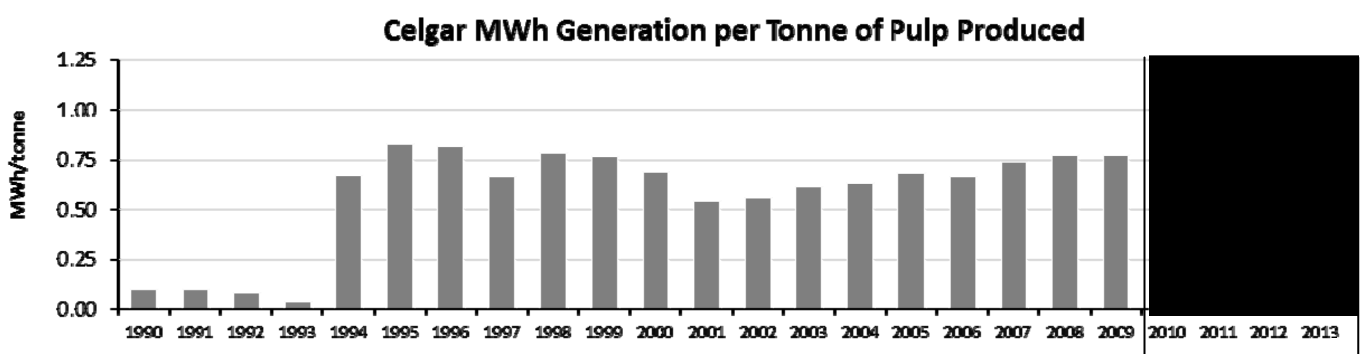
[10] *See* Annex A, Celgar Operational Data 1990-2013. In 2013 Celgar physically exported [[redacted]] across its meter, but received payment for 127,729 MWh.

[11] *See* Annex A, Celgar Operational Data 1990-2013.





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A. The Origins of the Celgar Mill

30. Mercer acquired the Celgar Mill in 2005, but the mill first began pulp operations in 1959. In 1989, Stone Venepal (Celgar) Pulp, Inc., acquired the mill, and by late 1993, Stone Venepal had completely rebuilt the Celgar Mill and had installed and begun operating a new 52 MW steam turbine and generator. By the time of the rebuild, the technology for recovery and pulp production systems in kraft mills had improved, enabling greater steam production, while reducing thermal energy requirements, the combined effect of which was to increase electricity generation. In addition, the improved technology allowed for lower electrical energy requirements across all pulp mill systems.

31. From 1990 through 1994, the Celgar Mill's electricity purchases had ranged from 114.2 GWh per year to 190.0 GWh per year. In 1995, Celgar's electricity purchases dropped to 22.3 GWh per year. Celgar's electricity generation had in fact increased to such a level that, in 1995, the Mill began making occasional, non-firm, low-priced electricity sales to its utility, FortisBC

(then known as WKP). [[[redacted]]]

32. The Celgar Mill was the second pulp mill in British Columbia to utilize a much newer generation of kraft pulp mill technology and to install significant generation capacity, as well as to utilize less electricity in its production process.[12] The new mill technology was able to recover significant quantities of biomass material that previously went to the sewer or to the air. Using newer technology, the mill could direct the material to the mill's recovery boiler where it could be burned as a fuel and converted to high pressure steam.

33. The Mill then directed its high pressure steam to the 52 MW extraction turbine and used it to generate electricity. The 52 MW extraction turbine is a special turbine that allows for a highly efficient process to occur, whereby the kinetic energy in the high pressure steam is converted to electricity, and the remaining thermal energy comes out of the turbine as low pressure steam. This low pressure steam then is piped through the plant to meet its thermal needs, including providing heat to dry the pulp the mill produces and heat other mill processes.

34. In 1998, Stone Venepal declared that the Celgar Mill would enter into bankruptcy. In my opinion, this bankruptcy was not driven by deficient pulp revenue. Though a drop in pulp revenue due to weak markets was definitely a factor, the Celgar Mill's bankruptcy likely was due to the fact that its pulp production was not creating enough black liquor to meet the energy needs of the mill. This, together with the under realization of electricity revenue, created high costs.

[12] The first BC pulp mill to "repower" was Howe Sound Pulp and Paper's mill located in Port Mellon, British Columbia.

Those high energy costs, coupled with several hundred million dollars of capital expenditures on the energy system which was not seeing returns, made it impossible for pulp production alone to ensure the economic viability of the mill.

35. [[redacted]][13] Mercer's acquisition of the Mill in 2005, however, sparked an aggressive focus on investing to optimize the Mill's performance.

B. 2005-2006: Mercer Plans for Improvements of Pulp Production and Electricity Generation

1. Mercer's Plans to Improve Operations of the Celgar Mill: Improving Electricity Generation

36. Before Mercer's acquisition and investment, the Celgar Mill's electricity generation was sporadic and unreliable. The Mill typically would require large amounts of imported energy and fuel, in the form of electricity and natural gas, in order to run. The lack of reliable electricity generation was strongly linked to the Mill's sporadic and unreliable production of pulp, as the mill suffered from unpredictable shutdowns and upsets. During these periods of shutdown and upset, the mill would need to purchase large amounts of electricity. When pulp production was unreliable, the Mill was not able to generate electricity either to consume or to export on a reliable or firm basis. Although, during periods (days and weeks) when the Mill produced pulp

[13] For example, the largest investment KPMG made was an expenditure of several million dollars to install a diffusion washer. The washer was installed but never successfully operated, thus attaining the status of a museum piece, while the mill continued to lose money. Under Mercer's oversight, however, Celgar eventually brought this piece of equipment into service.

reliably, it was able to engage in limited sales of electricity with its utility West Kootenay Power (later FortisBC), these sales were non-firm, [[redacted]]

37. Once Mercer acquired the Celgar Mill, Mercer worked with the management that had run the mill during the bankruptcy receivership to understand the mill's various operational idiosyncrasies and to identify priorities for improving and optimizing operations. Mercer used its Rosenthal mill as a point of comparison. The Rosenthal mill, while smaller than the Celgar Mill, in terms of equipment and production capability, operates with the highest efficiency levels in the industry. In essence, Rosenthal runs so well it "competes outside of its own weight class." By comparing Rosenthal with Celgar, Mercer hoped to identify low hanging fruit and strategic opportunities for improvement. [[redacted]]

38. First, increased pulp production would lead to higher returns. Investing in increased pulp production is accretive, as only wood and chemical costs exist for incremental pulp production, and the spread between these costs and revenue per tonne, as well as large amounts of incremental energy production, equates to large steps in incremental EBITDA. Second, more stable pulp production results in lower chemical usage and lower natural gas usage, yielding further cost savings.[14] Third, increased and more stable pulp production improves electricity generation and reliability at the mill. Every additional tonne of pulp the Mill produces increases the production of black liquor, which then allows for greater electricity production and decreased

[14] A pulp mill is considered in an "upset" condition when some or all of the mill's machinery or pumps come offline or need to be shut down temporarily and tank storage buffers between production steps becomes full resulting in the digester being slowed or turned off causing lost pulp and energy production which can never be recovered or caught up.

electricity purchases. In this sense, as pulp production increases and becomes more reliable, the mill's load does not increase as quickly as its electricity production. Electricity production grows faster than electrical load does for incremental pulp production. Finally increased reliability allows the Mill to produce and sell a "firm" electricity product.

2. Improvements to Energy Costs

39. When I joined Mercer in May 2005 as a Business Analyst, Mercer's CEO assigned me the key task of finding out why Celgar's costs were so high and developing measures to make Celgar more cost competitive. As part of this project, I focused on understanding how to improve Celgar's costs and revenues to make the mill competitive with its peers. To this end, I began studying Celgar's electricity usage and sales in 2005. Pricewaterhouse Coopers benchmarking reports revealed that, among its competitor mills, Celgar made the most efficient use of its electricity, but it also paid the highest price per megawatt-hour for that electricity.[15]

40. In 2005, Celgar was making intermittent electricity purchases from its utility, FortisBC, during plant upsets and shutdowns, and then self-supplying the rest of its electrical load requirements from its own generation. Celgar was paying a standard industrial rate under FortisBC's Rate Schedule 31 for 16 MW of firm electricity service in accordance with a 2000 General Service Power Contract Agreement it had entered into with West Kootenay Power (FortisBC's predecessor).[16] I therefore examined whether it would be better for Celgar to continue paying the standard industrial rate set by Rate Schedule 31, designed for an industrial customer with a constant electricity requirement, or switch to a different industrial rate based on

[15] [[redacted]] Mr. Isherwood was formerly the Director of Regulatory Affairs at West Kootenay Power, the predecessor of FortisBC.

[16] *See* C-193, General Service Power Contract and Brokerage Agreement between West Kootenay Power and KPMG (20 December 2000).

when Celgar actually purchased power, set by FortisBC Rate Schedule 33. Under Rate Schedule 33, the rate customers pay depends on when they purchase power. This is called a "time of use" rate, which sets lower prices for power during times when overall demand is low and higher prices for power during times when demand is high.

41. This "time of use" rate thus provides an incentive for customers with self-generation to self-supply during peak hours and to restrict their purchases to low demand/price periods. As a self-generator, Celgar was well-positioned to benefit from Rate Schedule 33's "time of use" structure, because Celgar had the option of self-supplying when electricity was expensive and purchasing power when the cost was lower. As Celgar, over a 24-hour period, had some ability to shift the timing of its electricity purchases by self-supplying, Mercer determined that it would be best to move Celgar from its FortisBC Rate Schedule 31 to the "time of use" rate set by Rate Schedule 33.

42. On 7 July 2006, we formally requested that FortisBC move Celgar to Rate Schedule 33, [[[redacted]]] [[redacted]]

[17] C-266, Letter from [[[redacted]]] Zellstoff Celgar, to [[redacted]] FortisBC Inc. (7 July 2006).

43. We eventually agreed that [[redacted]][18] In this way, we were able to maintain our access to [[redacted]] of firm embedded cost power, while at the same time shifting our time of use to time periods during which the price was comparatively low (thus taking advantage of the time of use incentives in Rate Schedule 33). This change lowered Celgar's purchased cost of energy per unit to the same level as those BC pulp mills with first quartile energy costs and allowed Celgar to become competitive with all the other pulp mills on a purchased cost per megawatt basis of electricity.[19]

3. Capitalizing on Non-Firm Electricity Sales

44. While focused on improving the Mill's reliability to enable firm electricity sales, until performance improvements could be executed, Mercer also sought to optimize its revenue from the electricity it could sell on a non-firm or hourly basis.

45. Before Mercer's acquisition of the Mill, Celgar had been making occasional non-firm electricity sales to its utility, FortisBC. These sales were governed by a Celgar-WKP 2000 Brokerage Agreement, which accompanied the General Service Power Contract and provided

[18] The final contract thus allotted us 384MW every 24 hours, which was equivalent to 16MW each hour for 24 hours or 10 MW each hour during the day and 25 MW at night. *See,* C-269 General Service Power Contract and Brokerage Agreement Between Zellstoff Celgar Limited Partnership and FortisBC Inc. (1 October 2006).

[19] In the context of evaluating Celgar's energy costs, I also studied Celgar's natural gas purchases. I discovered that Celgar's natural gas costs were [[[redacted]]] [[redacted]]

that [[[redacted]]][20]

46. At WKP's request, the parties included a Curtailment Agreement as part of the 2000 General Service Power Contract.[21] This occurred during the California energy crisis, when prices in the U.S. power markets were very high at certain hours. WKP, like BC Hydro and Powerex, wanted to take advantage of these high prices. [[redacted]] The curtailment agreement was only implemented infrequently during this period, but it nonetheless illustrates the principle that a utility normally must pay its customer for agreeing to displace or shed load.

47. Upon Mercer's acquisition of Celgar in February 2005, Celgar's relationship with FortisBC was governed by [[redacted]

[20] *See* C-193, General Service Power Contract and Brokerage Agreement between West Kootenay Power and KPMG (20 December 2000).

[21] *See* C-272, Curtailment Agreement between West Kootenay Power and KPMG (1 December 2000).

[redacted]][22] This practice continued even after Celgar negotiated a new rate in 2006 for electricity purchases from FortisBC. When Celgar and FortisBC executed a new General Service Power Contract on October 1, 2006 (which shifted Celgar from Rate Schedule 31 to Rate Schedule 33), they also executed a new Brokerage Agreement, with terms [[redacted]][23]

48. In order to maximize revenue from its non-firm electricity sales, Mercer studied the Open Access Transmission Tariffs, which would enable Celgar to transmit its generation to spot markets in Alberta and the US. On May 2, 2006, Celgar requested from FortisBC short-term, firm, point-to-point transmission access. FortisBC supported Mercer's efforts to export its self-generated electricity, and in July 2006, FortisBC granted Celgar's transmission access request.[24]

49. Around the same time that Mercer was investigating transmission access, in May 2006, I began to have discussions with power traders, including the provincially-owned company, Powerex, to explore options for selling our self-generated electricity. [[redacted]

[22] C-223, Consent to Assignment regarding General Service Power Contract No. 275331 (14 January 2005).

[23] *See* C-269, General Service Power Contract and Brokerage Agreement Between Zellstoff Celgar Limited Partnership and FortisBC Inc. (1 October 2006).

[24] *See* C-212, Letter Agreement between [[[redacted]]] FortisBC, and [[[redacted]]] Zellstoff Celgar Limited Partnership (7 July 2006). [[redacted]].

[redacted]][25]

50. [[redacted].] We ultimately entered into an agreement with NorthPoint Energy Solutions, a power marketing corporation owned by the Government of Saskatchewan, on 12 July 2006. The agreement provided that NorthPoint would [[redacted]][26]

51. The pricing terms in our contract with NorthPoint were based on [[redacted]

[25] C-224, Memorandum from Brian Merwin to [[[redacted]]] and [[[redacted]]] re Electricity Sales/Power Marketing Decision (8 June 2006), at 5 ([[redacted]]

[26] C-213, Marketing Services Agreement between Celgar and NorthPoint Energy Solutions Inc. [[[redacted]]] Whereas Clauses, Art. 1.1(j).

[redacted]]

52. The arrangement with NorthPoint worked on an [[[redacted]]]

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

C. 2005-2007: Project Blue Goose and Mercer Operational Improvements[28]

54. To achieve long term viability, the Celgar Mill needed to create a reliable and steady state for producing pulp and thereby a reliable capacity to generate electricity. This step is a prerequisite for any kraft pulp mill to have predictable or firm electricity generation. To this end, Mercer employed best practices from its other German mills and invested in upgrades and improvement to the Mill's equipment — through a project it named Blue Goose — which allowed the mill to run more reliably and at higher levels. These improvements allowed Celgar to increase and firm up the mill's electricity output.

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[27] *See* C-213, Marketing Services Agreement between Celgar and NorthPoint Energy Solutions Inc. [[[redacted]]], app. A, Sample Invoice.

[28] See, C-181, Celgar, Project Performance Analysis: Zelstoff Celgar Limited Partnership Capital Project Review (24 January 2012) at, 12-36.

55. During the November 2004 pre-purchase due diligence review, Mercer, with support from [[redacted]], identified the key production constraints and reasons for the Celgar Mill's high chemical and energy costs. [[redacted]] Ultimately, Mercer spent C$ 27.44 million. After its acquisition of the Celgar Mill, Mercer retained [[redacted]] to fast-track cost estimates for this capital project to allow for Mercer Board review in June 2005. The Board approved the Blue Goose Project in August 2005, with a C$ 28.5 million budget. The project schedule planned for the commissioning of equipment in Q4 2006.

56. [[redacted]]'s analysis included a production forecast and review of mill chemical and energy balances to calculate conservative paybacks for the projects. [[redacted]] forecast pulp production to increase from [[[redacted]]][29]

57. Due to labor union activity throughout the Province, we delayed full commissioning of the Blue Goose Project until early 2007. The specific improvements made under the Blue Goose Project were as follows:

a. [[redacted]

b. [redacted]

[29] *See* C-159, [[redacted]] — Technical Due Diligence" for Mercer International Inc. (18 November 2004) at 4; Annex A, Celgar Operational Data 1990-2013.

[redacted]

c. [redacted]

d. [redacted]]

58. Ultimately, as a result of Project Blue Goose, the Celgar Mill was able to achieve annual pulp production levels over 500,000 tonnes, and was able to increase electricity generation by 64,000 MWh per year. The Blue Goose Project increased Celgar's electricity generation from

290.4 GWh in 2006 to 350.6 GWh in 2007 — Celgar's highest ever annual level of electricity generation.[30]

59. This increase enabled Celgar to reduce, but not eliminate, its electricity purchases from FortisBC. Although Celgar in total generated more electricity in 2007 than its total load of 349 GWh, its generation levels fluctuated. There were times it generated power surplus to its load (which it exported through NorthPoint or sold to FortisBC under the 2006 Brokerage Agreement), and there were times when its generation output was not sufficient to meet the Mill's load.[31] This is why, during 2007, Celgar continued to maintain its firm energy contract with FortisBC, and continued to take and pay for firm energy under RS 33.

60. From 2001 through 2006 (post-Mercer acquisition and pre-Blue Goose improvements), Celgar's utility electricity purchases averaged 71.4 GWh annually. In 2007, the first full year in which the Blue Goose improvements were on line, Celgar's electricity purchases dropped to 22.6 GWh per year.[32] Once the Blue Goose power project improvements came online in 2007, Celgar carried out studies of the Mill's performance and potential markets for electricity sales and concluded that firm electricity sales were a real possibility for Celgar.

D. 2007-2008 Celgar Mill Wood Room Upgrade

61. In October 2006, the U.S. housing market was beginning to collapse, and with it, prices for Canadian lumber experienced a drastic drop. [[redacted]

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[30] *See* Annex A, Celgar Operational Data 1990-2013.

[31] The Celgar Mill has electricity meters on both of its turbine generators and at the point of interconnection with FortisBC. The Mill thusly maintains data on the amount of electricity it generates, as well as the net electricity flows into or out of the plant.

[32] *See* Annex A, Celgar Operational Data 1990-2013.

[redacted].

62. In 2007, [[redacted]][33]

63. By mid 2007, [[redacted]] As a result, the Mill's fibre costs began to rise to unsustainable levels. In light of these escalating costs, Mercer decided to upgrade Celgar's wood room at a cost of approximately C$11.39 million. The upgrades would enable Mercer to increase the volume of low-value pulp logs and beetle-damaged logs it could purchase and itself convert to wood chips. Mercer believed the wood room was a critical investment to deal with the supply shortage of wood chips in the Province. By providing an on-site source of wood chips, the new wood chipping plant would allow Celgar to continue to operate and avoid shut down, even when faced with an insufficient, or nonexistent, supply of wood chips from outside suppliers. We completed the wood room upgrade, and it became operational in December 2008

64. The upgraded wood room enabled the Celgar Mill to process low quality, smaller diameter logs from trees that had been killed by in the Mountain Pine Beetle epidemic (the "Beetle Epidemic"). The Beetle Epidemic had killed extensive swaths of BC forest between

[33] One Pope & Talbot mill is located adjacent to the Celgar Mill and is connected to the Celgar mill via a chip belt. The other Pope & Talbot mill is located in Grand Forts, which is 97 kilometres away.

2000 and 2010, creating wood sources still usable for pulp. The lumber crisis described above led to sawmill curtailments and the unemployment of thousands of loggers and truck drivers.

E. 2007-2010: Celgar's Green Energy and Arbitrage Projects and BC Hydro's BioEnergy Phase I Call to Power

65. Historically, the Celgar Mill produced surplus steam when it was running well. In 2006, Mercer initiated a Pinch study project, with the assistance of a Natural Resources Canada funding program, to study steam-saving opportunities at the Mill. The project identified a significant number of steam-savings opportunities. These opportunities, coupled with the surplus steam the mill was already producing and improvements we intended to make to the hog fuel power boiler, provided us a foundation from which to launch our Green Energy Project, which would involve a significant increase in Celgar's electricity generation through the installation of a new, additional 48 MW condensing turbine.

1. The Arbitrage Project

66. In June 2007, Celgar approached FortisBC, after first signing a non-disclosure agreement, [[redacted]] [[[redacted]]] FortisBC explained that they had [[[redacted]]] from their 1993 Power Sale Agreement with BC Hydro. (This agreement is also known as the 3808 Agreement because the BCUC approved it as Rate Schedule 3808.) [[[redacted]

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[34] C-188, Confidentiality Agreement between Celgar and FortisBC (6 June 2007) (attaching letter from D. Gandossi, Zellstoff Celgar Limited Partnership, to [[[redacted]]] regarding Celgar Electricity Project (June 6, 2007)).

[redacted]]] our discussions shifted to the possibility of FortisBC supplying Celgar with electricity sufficient to meet its full load requirements while Celgar would simultaneously sell the entire output of its two turbine generators to third parties within or outside the province.

67. After the meeting, I received an email from [[[redacted]]] stating that he was intrigued by the concept.[36] He informed me that he also had briefed his CEO, who was very interested in our idea, and saw no reason why Celgar could not become a full load customer.[37]

68. In light of FortisBC's interest, I studied and developed the foundation of our potential electricity purchase arrangement with FortisBC — naming it the Arbitrage Project.[38] I called it the Arbitrage Project because we would be buying and selling electricity simultaneously. [[redacted]] FortisBC and Celgar therefore proceeded to negotiate an agreement for Celgar's export of all of its power generation while FortisBC supplied all of Celgar's industrial load.[39]

69. In my development of the Arbitrage Project, I had concluded that Mercer might be a first mover in the area of arbitrage (or simultaneous full-load electricity purchases and full generation

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[35] Based on its own data and publicly available load data concerning FortisBC, Celgar estimates that the 129.8 GWh of electricity it purchased from FortisBC in 1992, the year before the PPA took effect, accounted for a little over 5 percent of FortisBC's total energy requirements.

[36] *See* C-214, Email chain involving [[[redacted]]]

[37] *See* C-214, Email chain involving [[[redacted]]]

[38] *See* C-216, Mercer International Group, Presentation titled "Celgar Electricity Opportunities" (23 July 2007).

[39] *See* C-214, Email chain involving [[[redacted]]]

sales), and if our competitors were to implement similar arrangements, they might have a slight advantage over us, given that BC Hydro provided them better rates for the purchase of power and more incentives to generate electricity.[40] Although at the time I believed that, BC Hydro's contract terms with individual pulp mills were much more restrictive, making Celgar the only BC kraft pulp mill in BC capable of engaging in arbitrage, I later discovered that this was not, and is not, the case. I learned anecdotally from discussions with industry competitors that the BCUC and BC Hydro allow kraft pulp mills in BC Hydro's territory to engage in arbitrage, or buy embedded cost utility power at the same time they sell their own generation to BC Hydro. Ultimately, due to proceedings that BC Hydro initiated before the BCUC and the eventual BCUC Order G-48-09, our competitors were allowed to engage in simultaneous purchases and sales, and Celgar was banned from doing so, which severely disadvantaged us in relation to our competitors.

70. In July 2008, [[[redacted]]] informed me that BC Hydro was planning to file before the BCUC an opposition to self-generators in FortisBC territory engaging in arbitrage between FortisBC embedded cost power and market prices. In my conversations with [[[redacted]]], he explained that BC Hydro intended to use an agreement that FortisBC had reached with the City of Nelson, and the 1993 Power Purchase Agreement between BC Hydro and FortisBC, as grounds for stopping FortisBC from supplying any embedded cost power to Celgar while Celgar was selling its self-generated electricity. [[[redacted]]] explained that

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[40] *See* C-251, Memorandum from Brian Merwin to [[[redacted]]] and [[[redacted]]] re Electricity Procurement & Energy Opportunities (27 March 2006); C-216, Mercer International Group, Presentation titled "Celgar Electricity Opportunities" (23 July 2007), at slide 8 ("[[redacted]]

during a meeting he had with BC Hydro, BC Hydro representatives expressed that they see Celgar's Arbitrage Project with FortisBC

[[redacted]]

71. Again, FortisBC tasked regulatory experts with examining the issues BC Hydro had raised in opposition to self generators in FortisBC territory engaging in arbitrage. Again, FortisBC reported to me that they had concluded that the Arbitrage Project was on solid ground.[42]

72. Despite BC Hydro's expressed opposition to Celgar's Arbitrage Project, FortisBC was confident that the 1993 Power Purchase Agreement could not be interpreted to limit FortisBC from serving Celgar's load while Celgar sold its self-generated electricity. Thus, on August 21, 2008, Celgar and FortisBC signed a 30-year Power Supply Agreement, allowing Celgar to export all of its self generation while purchasing electricity sufficient to meet its load from FortisBC at embedded cost rates under existing Rate Schedules 31 and 33.[43]

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[41] C-214, Email chain involving [[redacted]]; *see* C-214, Email chain involving [[redacted]]]

[42] *See* C-214, Email chain involving [[redacted]]]

[43] C-220, Power Supply Agreement between Celgar and FortisBC Inc. (21 August 2008).

73. The Power Supply Agreement was subject to approval by the BCUC, and FortisBC filed the Agreement with the BCUC on August 26, 2008.[44] Both FortisBC and Mercer expected to be able to move forward with the Power Supply Agreement very shortly after its filing with the BCUC, although the Agreement provided that either party could terminate the Agreement if BCUC approval was not received within 120 days of filing.[45] Until this time, the BCUC's practice had been simply to accept and file power supply agreements between a utility and its customers if established rate schedules were used. In this case, we were using Rate Schedules 31 and 33 (the appropriate rate schedules for a transmission-level industrial customer like Celgar). [[redacted]]

74. One month after Celgar and FortisBC executed the Power Supply Agreement, in September 2008, BC Hydro filed its application with the BCUC requesting an amendment of the 1993 Power Purchase Agreement between BC Hydro and FortisBC that would effectively quash the Celgar-FortisBC Power Supply Agreement. The BCUC allowed Celgar to participate in the proceeding.

75. At the end of September 2008, [[[redacted]]] advised me that FortisBC had been asked by the BCUC to withdraw the Celgar-FortisBC Power Supply Agreement ("PSA"), pending a decision in the BC Hydro proceeding to amend the 1993 PPA. FortisBC subsequently withdrew the Celgar-FortisBC Power Supply Agreement until the proceeding regarding BC Hydro's requested amendment to the 1993 PPA had been resolved. During the proceeding

[44] C-220, Power Supply Agreement between Celgar and FortisBC Inc. (21 August 2008), § 4.2.
[45] C-220, Power Supply Agreement between Celgar and FortisBC Inc. (21 August 2008), § 4.2.

before the BCUC, FortisBC continued to support Celgar as a customer, arguing against BC Hydro and in favor of serving Celgar's full load while Celgar sold its self-generation to third parties.

76. In October 2008, I reached out to Les McLaren, at the Ministry of Energy, Mines and Petroleum Resources, to set up a meeting to discuss our proposed contract with FortisBC. Mr. MacLaren agreed to meet with Mr. Gandossi, Mercer's Executive Vice-President, CFO and Secretary, and me, and explained the government's position on sales of self-generation by customers with access to embedded cost power. In an email to me, he stated:

> {T}he government does not support the re-pricing of self-generation to market and replacing that power with embedded cost utility supply. The issue of this type of arbitrage is currently before the BCUC in the case of the City of Nelson. The Commission in the past has allowed this type of transaction only for incremental or re-start of idle generation. We adopted a similar direction for the Phase 1 Bioenergy Call whereby only incremental generation was eligible to bid at market rates.[46]

2. The Green Energy Project and BC Hydro's BioEnergy Power Call Phase I

77. The Green Energy Project was a culmination of a series of smaller steps to improve and increase Celgar's electricity generation, which included the implementation of operational best practices, the Blue Goose Project, and the Pinch Study. We prepared a prefeasibility study of capital costs for the Green Energy Project. Mercer approved appropriation level engineering for the Green Energy Project in April 2007. [[redacted]]

[46] C-214, Email chain involving [[[redacted]]]

78. At the time, we estimated the project would cost [[redacted]]

79. In March 2007 — while Celgar was in negotiations with FortisBC over their Power Supply Agreement — and as required by the Province's 2007 Energy Plan, BC Hydro issued its Request for Expressions of Interest to supply biomass-based electricity, under what it would later call BioEnergy Phase I.[47] Celgar responded to the Request for Expressions of Interest, which later led to a meeting between Celgar and BC Hydro, during which Celgar introduced its Green Energy Project and proposed to sell to BC Hydro all electricity generated from the planned installation of a new 48 MW condensing turbine.[48]

[47] *See* C-63, BC Hydro Report on BioEnergy Call Phase I (17 February 2009), § 1.3.1; C-243 BC Hydro and BC Transmission Corp. BioEnergy Information Meeting Materials, including BC's Bioenergy Strategy: Growing BC's Natural Energy Advantage by Janice Larson of BC Ministry of Energy, Mines and Petroleum Resources (20 February 2008).

[48] In June 2007, the BC Pulp and Paper Task Force drafted a position paper largely in response to initial announcements regarding the Province's plant to promote biomass based energy through the construction of biomass power plants. The position paper was submitted to the Ministry of Forest and Ministry of Energy Mine and Petroleum. The position paper expressed the concerns of the Task Force regarding the likelihood that biomass power plants would exhaust the fibre supply that pulp mills utilize, forcing pulp mills to become unviable and close. The Task Force explained the symbiotic relationship that exists in BC between the sawmills which supply fibre and the pulp mills which purchase it, and that it was critical for the industry not to have stand alone power plants destroy the finely balanced economics of wood supply for the pulp mills. In response, BC restructured power call, named Bioenergy Phase I, to prevent harm to the existing pulp and paper industry to ensure that no harm would be caused to the existing pulp industry by changing the affordability of wood for existing users. The Task Force continued to advocate for pulp and paper self-generation throughout 2007. We focused on ensuring that the Bioenergy Phase I Call maintained the balance between pulp mills and saw mills and recognized existing self-generation. These efforts culminated in a meeting with Rich Coleman, the Minister of Forests at the time. As a result of this meeting, the BC governments established a working group

Footnote continued on next page

80. BC Hydro formally initiated Phase I of the Bioenergy Call process on February 6, 2008, with a Request for Proposals.[49] The deadline for submitting proposals was June 2008. Before proposals could be submitted however, prospective bidders were required to register. In March 2008, Celgar submitted registration forms, this time proposing two different energy projects: the Green Energy Project and a Biomass Realization Project. The Green Energy Project focused on the sale of the new generation that would result from planned improvements to the mill and installation of a new 48 MW turbine generator. The Biomass Realization Project focused on selling the green energy we were already generating, *i.e.,* output from the 52 MW turbine the Mill had installed in the early 1990s, but also including the operational improvements Mercer had made since purchasing the Mill, and its 2005-06 Blue Goose Project.

81. We met with BC Hydro to explain both projects and fielded numerous questions. BC Hydro, however, informed Celgar that it would not accept the Biomass Realization Project, as the terms of the BioEnergy Phase I Call were limited to projects offering the sale of new generation.[50] BC Hydro had decided that none of the investments Mercer had made qualified as new.

82. We thus shifted discussions to focus on what portion of Celgar's self-generation BC Hydro would be interested in buying. [[[redacted]]] Nevertheless,

Footnote continued from previous page
on pulp and paper self generation, the Pulp and Paper Self Generation Working Group, in which I participated.

[49] *See* C-242, BC Hydro Bioenergy Call for Power -- Phase 1 Request for Proposals (6 February 2008); C-244, Email from Marc Beauchemin of BC Hydro to Brian Merwin of Mercer International (7 February 2008); C-245, Letter from Jim Scouras of BC Hydro to Brian Merwin of Mercer International (7 February 2008).

[50] C-246, Letter from BC Hydro RFP Administrator to Brian Merwin (2 May 2008).

Celgar was continuing to explore all its options, including options to sell its pre-existing generation output. By this time, Celgar had targeted [[redacted]] [[[redacted]]] Celgar also had identified other long-term electricity sales opportunities through its power broker, NorthPoint.

83. By the summer of 2008, Mid-C power contract prices were very robust, [[[redacted]]] 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.

84. While Celgar was preparing its final proposal in response to the BioEnergy Phase I RFP, in May 2008, Mercer's Board of Directors gave its full approval to the Green Energy Project. By that time, it was a C$55.5 million project, which included the installation of a 48 MW condensing turbine, a series of mill steam savings projects to free up more steam for power generation, and a significant upgrade to Celgar's hog fuel fired power boiler to increase the boiler's production of steam.

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[51] In our [[[redacted]]] in 2007, they made it clear that before entering into a contract, they would need to know what volume of electricity we would have available to sell to them. Until we knew how much of our self-generation we could to sell to BC Hydro, however, we could not progress in our negotiations with [[[redacted]]]. *See*, C-247, Letter from Brian Merwin to BC Hydro RFP Administrator (7 May 2008) at 3.

85. On May 2, 2008, BC Hydro provided Celgar with a letter advising on the eligibility of our two proposed projects.[52] BC Hydro informed Celgar that it was only interested in purchasing electricity generated from Celgar new generator, and that energy from our existing generator (our Biomass Realization Project) was ineligible.

86. I phoned BC Hydro and explained to Lester Dyck that the letter they sent made no sense to us, as our generators were linked and powered from a common steam source. During these discussions BC Hydro, stated they were interested in purchasing from Celgar only energy generated in excess of Celgar's load in any hour. This would have meant that Celgar would sell to BC Hydro only net-of-load power, which load would be assessed on a dynamic, not a static, basis. Celgar's GBL would need to fluctuate continuously with Celgar's load.

87. I advised BC Hydro that such an approach deviated from the form contract provided in the Bioenergy Phase I process, which contemplated a GBL fixed for the term of the contract. I also stated that for planning purposes, Celgar required a fixed GBL and a fixed firm energy sales volume. What BC Hydro was proposing was like trying to fit a square peg in a round hole, and they had created both the peg and hole. After these exchanges, Mercer sent a letter on May 7, 2008 asking BC Hydro to reconsider the eligibility of Celgar Biomass Realization Project, and expressing a willingness to work quickly with BC Hydro to establish a GBL for the Mill.[53]

88. On May 30, 2008, BC Hydro finally agreed to assign Celgar a fixed GBL. However, it preliminarily assigned Celgar a GBL equal to the level of its total load from the most recently completed calendar year, 2007.[54] This amount was 349 GWh/yr. This GBL was a net-of-load GBL, albeit one that was static rather than one that would fluctuate. It was not based on Celgar's

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[52] C-246, Letter from BC Hydro RFP Administrator to Brian Merwin (2 May 2008).

[53] C-247, Letter from Brian Merwin to BC Hydro RFP Administrator (7 May 2008).

[54] *See* C-248, Letter from BC Hydro RFP Administrator to Brian Merwin (30 May 2008).

historical usage of its own generation to meet load, as Celgar had to that time never fully met its load with self-generation. Celgar had always needed to supplement its self-generation with purchases of firm and non firm energy from FortisBC under its General Services agreements, and in fact had done so in 2007, purchasing 22.6 GWh.

89. Moreover, BC Hydro's selection of 2007 as the baseline period struck us as particularly inappropriate. 2007 was the first year in which Project Blue Goose was operational, and thus the GBL treated the incremental generation resulting from that new investment as historical generation rather than new or incremental generation. Indeed, 2007 reflected Celgar's highest one-year load to date, and Celgar's highest one-year generation to date.

90. At the time, Celgar had understood that the purpose of a GBL was simply to serve as a demarcation point that defined the amount of firm energy BC Hydro would purchase, which would be equal to the amount of Celgar's generation above the GBL. Celgar had no understanding that it would not be permitted to sell energy below its GBL to third parties, such as [[[redacted]]] or to other third parties through NorthPoint. Indeed, Celgar was actively exploring both opportunities at the time. That being said, as previously mentioned, Celgar preferred to sell as much of its self-generated electricity within BC as possible, to avoid costly transmission costs to export its electricity outside of the Province. Therefore, Celgar objected to the GBL BC Hydro had set as too high.

91. We were not satisfied with a net-of-load GBL (albeit static rather than dynamic), nor did we agree with the selection of a one-year, 2007, baseline period. During May and June 2008, we met with BC Hydro to discuss the GBL, and I walked them through our view of the problems that arose from basing the GBL on Celgar's 2007 load. Celgar's objections to BC Hydro's net-of-load approach to setting Celgar's GBL included: (1) BC Hydro was using our highest load

and generation year ever; (2) Moreover, we were getting no recognition for our Blue Goose Project and the series of investments and improvements we had taken incrementally to increase power generation.; (3) BC Hydro was not considering our existing energy sales and purchases. They measured our load, rather than the amount of self-generation we were using to meet our load, which was what the GBL was supposed to represent; (4) BC Hydro was including in Celgar's GBL calculation load that did not belong to Celgar. Celgar supplied drinking water with its pump station to the City of Castlegar, passing on at cost the electricity charges associated with pumping the water. This was essentially the City of Castlegar's load, not Celgar's. A similar situation existed with respect to an oxygen plant that recently had been located at the Celgar site. The oxygen plant was connected directly into Celgar's electrical system, and Celgar provided electricity at cost to them.

92. In the end, BC Hydro refused to reconsider the preliminary GBL it had assigned Celgar. Celgar considered the GBL to be a means to an end, as Celgar could not file it final proposal documents without accepting the assigned GBL. We did so, however, with the understanding that the GBL only served to establish the generation level above which BC Hydro would purchase Celgar's energy, and that we could revisit the GBL later on in the process if our bid were successful.

93. In June 2008, Celgar submitted its project proposal in response to BC Hydro's Bioenergy Phase I Call. Celgar's was one of 20 project proposals BC Hydro received and was ultimately selected as one of the four successful bidders.

3. The Recession: 2008-2009

94. By then, the recession had hit, and the Celgar Mill [[[redacted]]] The following table illustrates Celgar's Earnings Before Interest Taxes Depreciation and Amortization (EBITDA) through three quarters of 2008 and full 2009.

Figure 5

	2008			2009			
	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Celgar Quarterly EBITDA (thousands of C$)	[redacted]						

95. Collectively over this period, Celgar had [[[redacted]]].

96. [[[redacted]]] [[redacted]] [[[redacted]]] [[redacted]] [[[redacted]]]

97. [[redacted]]

55 [[[redacted]]]

98. Celgar was being hurt not only by rapidly declining pulp prices, but also by a significant increase in its variable costs. This was largely due the fall in housing demand in the U.S., which led to extensive sawmill curtailments across Celgar's wood chip procurement area, and the bankruptcy and closure of the two Pope & Talbot sawmills in late 2007, which historically had supplied Celgar's with its lowest cost wood chips. Celgar's wood chip cost had increased from an average of [[[redacted]]]

99. Generally, large, capital intensive industries like pulp and paper have extremely high fixed costs. As a rule of thumb, a pulp mill will refrain from shutting down as long as it covers its variable costs. Deciding whether to shut down an asset includes considerations such as where your operation sits on the cost curve compared to competitor mills. As such, if your mill is the low cost producer, your mill does not lose as much as your competitors, and your competitors will likely shut down before your mill. Once competitors shut down, the commodity price for pulp has the potential to improve. Also, if the competitors that shut down are located in the same area, the regional supply of wood chip improves, allowing for a plant to improve its variable costs to stem some of the losses.

100. In 2008/09, Celgar was one of the dominant mills in BC, as it typically had one of the lowest costs. Once the recession hit, Celgar expected one or more of its competitor mills to shut down. As I recall, the Tembec Skookumchuck and Catalyst Crofton mills did, in fact, shutdown for several months during this period.

4. The Celgar-BC Hydro Electricity Purchase Agreement (January 2009)

101. Once selected by BC Hydro as one of the bid winners in the BioEnergy Phase process, BC Hydro invited Celgar to negotiate a potential Electricity Purchase Agreement ("EPA"). At that time, Celgar was almost one year into a two-year construction project for the

Green Energy Project. At the start of every discussion with BC Hydro, I would give an update of our Green Energy Project. It always was interesting to watch the "deer-in-the-headlights" expression on BC Hydro employee faces when they were new to these discussions. I recall one BC Hydro employee asking me after my update, somewhat in disbelief: "You are building a project without a power contract from us?" I confirmed that was indeed our plan, and informed the employee that, although BC Hydro was our first choice for a power purchaser, we had options with third parties as well. It appeared to me that BC Hydro had not contemplated that an IPP or self-generator in British Columbia had sales options other than BC Hydro or Powerex. BC Hydro seemed to view us as a captive supplier.

102. We met with BC Hydro a number of times between August and November 2008, and discussed Celgar's disappointment with the GBL we had been assigned during the bid preparation phase. Celgar continued to argue for alternative GBLs, including for BC Hydro to treat the additional electricity resulting from the Blue Goose Project as new generation, and not include it in the GBL. Nonetheless, BC Hydro continued to insist on a net-of-load based GBL — the annual GBL of 349 GWh/year, tied to Celgar's 2007 total load — that it had assigned to Celgar during the bidding process.

103. When it became apparent that BC Hydro was unwilling to agree to any GBL other than one tied to Celgar's 2007 load, Celgar accepted the net-of-load GBL, but with the express understanding that Celgar intended to sell to other parties that portion of our below-load self-generation that BC Hydro was not interested in buying. BC Hydro accepted this during the

negotiations, and we finalized contract language reflecting agreement on this point in a provision which allowed Celgar to sell electricity below its load to third parties.[56]

104. BC Hydro's negotiators informed us that our negotiations had to be finished by early November 2008, to allow them time to prepare a package describing our proposed agreement for submission to the BC Hydro Board of Directors on November 19, 2008. Just before it presented the EPA to its Board, however, BC Hydro contacted Celgar to insist on an amendment to the agreement that would prohibit Celgar from selling any below-GBL electricity to third parties. The amendment prohibited below-GBL sales *to any person*, except on a net-of-load basis.

105. This was not the GBL arrangement that we had agreed to, and Celgar refused to accept this last minute amendment. In turn, BC Hydro would not accept an EPA without the amendment. The timing of this standoff could not have been worse for Celgar. As noted above, Celgar, during the quarter had been [[[redacted]]]

106. In the end, Celgar and BC Hydro agreed to include the modified language in the EPA, on a conditional basis, subject to the terms of a side-letter agreement between Celgar and

[56] *See*, C-225, Letter Agreement between BC Hydro and Celgar (27 January 2009) ("Side Letter") ("In our discussions regarding the EPA, the Seller took the position that section 7.4(b) should read as follows (the 'alternate 7.4(b'): '{The Seller shall not at any time during the Term commit, sell, or deliver any energy to any Person, other than the Buyer under the EPA, except} . . . that portion of the Energy generated in any Season during the Term after COD that is less than the Seasonal GBL for that Season . . . .' The parties have executed and delivered the EPA in its present form as to section 7.4(b), provided that this letter is exchanged.").

BC Hydro that would eliminate the restriction on below-GBL third-party sales if Celgar were to obtain an Order from the BCUC allowing it access to utility power other than on a net-of-load basis.[57]

107. Once the side letter was executed, Celgar and BC Hydro signed the EPA on January 27, 2009. BC Hydro submitted it to the BCUC for approval on February 17, 2009.[58]

108. The BCUC ultimately approved the BC Hydro-Celgar EPA on July 31, 2009. But before it approved the BC Hydro-Celgar EPA, the BCUC issued Order G-48-09, approving BC Hydro's request to amend the 1993 PPA, imposing a net-of-load access standard on Celgar. Celgar then began selling electricity on a net-of-load basis to BC Hydro starting in September 2010.[59]

F. 2009 - 2010: Post-Recession Revitalization of the Green Energy Project

109. During the 2008-09 recession, Celgar was unable to secure financing for its Green Energy Project, and thus in May 2009, announced the suspension of the Project. [[redacted]] when the Canadian government in June 2009 initiated the Pulp and Paper Green Transformation Program ("PPGPT"), it made eligible preexisting projects that had been suspended. This program was available to and used by all kraft pulp mills across Canada to finance environmental

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[57] *See* C-225, Side Letter.

[58] *See* C-63, BC Hydro Report on BioEnergy Call Phase I (17 February 2009).

[59] <[[redacted]]>. *See* C-149, COD Certificate for Zellstoff Celgar Green Energy Project (27 September 2010).

improvement projects. Many pulp mills across Canada, including Celgar, used some or all of their PPGPT funds to construct green energy projects. The benefit under the Canadian program was based on transparent criteria, and resulted in a credit of C$0.16 per liter of black liquor produced by any pulp mill in Canada between 1 January and 1 May 2009. In total, the federal program provided C$ 1 billion in credits to 38 pulp and paper mills in Canada, for 98 projects.[60]

110. Notably, this was a federal program and not a provincial program. Neither the Province of BC nor BC Hydro has ever provided the Celgar Mill with any funding or financing to install or improve electricity generation capability. Correspondingly, Celgar has never signed any load displacement or other agreement in which it has committed to use its self-generation to meet its load. At the time it signed its 2009 EPA with BC Hydro, Celgar's existing and contemplated future generation capacity was completely uncommitted and unencumbered.

111. As a result of the Pulp and Paper Green Transformation Program announcement, Celgar was able to convince its suppliers and contractors that Celgar would be able to restart our Green Energy Project once the Pulp and Paper Green Transformation Program was underway. [[redacted]].

112. In November 2009, Celgar entered into a non-repayable Contribution Agreement with Natural Resources Canada, whereby Natural Resources Canada agreed to provide approximately C$ 40.0 million in grants (of the allocated C$ 57.7 million) towards certain costs associated with the Celgar Energy Project. Subsequently, Natural Resources Canada agreed to

[60] *See* C-75, *Pulp and Paper Green Transformation Program: Mission accomplished*, NRCAN.GC.CA, http://www.nrcan.gc.ca/forests/federal-programs/13141.

provide an additional C$ 8.0 million pursuant to the terms of the Contribution Agreement. By late 2009, we had restarted the Green Energy Project, with the PPGTP assistance Funding.

113. In the end, the total project cost for the Green Energy Project was C$ 64 million, toward which we used C$ 46.8 million in federal government PPGTP funds. Celgar completed its Green Energy Project by the end of September 2010.

IV. BRITISH COLUMBIA'S REGULATORY TREATMENT OF CELGAR

114. The amount of self-generated electricity a pulp mill may sell effectively is determined by provincial government regulation, in addition to the size of the mill, its technology, and its investment in generation capacity. In BC, the Province does not restrict sales directly, but instead does so indirectly, by limiting access to embedded cost utility power a self-generating pulp mill needs to meet its own electrical load. If one cannot purchase power to run one's mill, one must divert its self-generation to meet that load.

115. In Canada, electricity and public utilities are regulated at the provincial level. In BC, the public utility regulatory agency is the British Columbia Utilities Commission ("BCUC"), whose authority was established by the Utilites Commission Act ("UCA"). Under the UCA, the BCUC regulates British Columbia's electricity market. The BCUC has the authority to set rates, tariffs, and charges; to regulate the provision of service within the province; and to approve large capital expenditures for the Province's electricity system.

116. All rates for electricity charged by public utilities are subject to BCUC approval. Under Section 59 of the UCA,

> (1) A public utility must not make demand or receive (a) an unjust, unreasonable, unduly discriminatory or unduly preferential rate for a service provided by it in British Columbia, or (b) a rate that otherwise contravenes this Act, the regulations, orders of the commission or any other law. (2) A public utility must not (a) as to rate or service, subject any person or locality, or a particular description of traffic, to an undue prejudice or disadvantage, or (b) extend to any person a form of agreement, a rule or a facility or privilege, unless the agreement, rule, facility or privilege is regularly and uniformly

extended to all persons under substantially similar circumstances and conditions for service of the same description.

117. To add generation, the Celgar Mill did not need BCUC approval, but it did require environmental approvals for the emissions and other environmental impacts of the proposed project. Prior to 2006, Celgar sold any surplus self-generation to FortisBC pursuant to the parties' Brokerage Agreement. Then, between 2006 and 2010, we sold a portion of our electricity through NorthPoint, our power trader, and also continued to sell any remaining portion to FortisBC on a net-of-load basis.

118. Our power sales through NorthPoint were exported outside of BC, and thus subject to transmission access regulations governed by FortisBC's and BC Hydro's Open Access Transmission Tariff. Because NorthPoint has a national permit to engage in electricity exports from BC, no Provincial permission was required for Celgar to execute electricity export sales through NorthPoint.

A. BCUC Order G-48-09

119. After the issuance of BCUC Order G-48-09 in May 2009, Celgar, perhaps naively, believed that it could avoid the strictures of the net-of-load standard if it could obtain a lower GBL from its own utility, FortisBC. We saw the historical usage based GBL under Order G-38-01, set by a self-generator's own utility, as an alternative to the net-of-load standard in Order G-48-09, and did not yet fully appreciate that the BCUC had imposed a completely different and more restrictive standard on Celgar than it had imposed on all other pulp mills regarding access to embedded cost power while selling power.

120. Celgar consequently requested that FortisBC set a GBL for Celgar that was lower than the GBL BC Hydro had set. We thought that a FortisBC assigned GBL would serve two purposes: (1) liberate Celgar from the restrictive net-of-load standard; and (2) should the BCUC

approve a FortisBC assigned GBL, such BCUC action could be used by Celgar to activate the terms of the side letter to its EPA with BC Hydro, to override the EPA's restrictions on its below-load sales to third parties. FortisBC, however, rejected this request, citing concerns regarding its relationship with BC Hydro.

121. As a general matter, after the issuance of G-48-09, [[[redacted]]] Finally, during a phone call in February 2010, [[[redacted]]] advised me that FortisBC had no tariffs or mandate in place to set a GBL, and considered that only BC Hydro had the authority to assign GBLs to its customers. [[[redacted]]] [[[redacted]]] thus informed me that [[[redacted]]] had decided that, before calculating a GBL, Fortis would require guidelines from the BCUC on how to make that calculation. On another occasion, FortisBC also advised Celgar that, because it could not segregate BC Hydro PPA power from power FortisBC generated from its own resource stack, FortisBC could comply with the amended 1993 PPA only by denying Celgar *all* access to embedded cost utility power while Celgar is selling its self-generated electricity.

122. Only later did we learn that Fortis Inc., FortisBC's parent corporation, had plans to build a C$1 billion power project, the Waneta Expansion, < [redacted]

[redacted] > It has the potential to generate large returns for FortisBC shareholders. We found out about the project only when it was announced to the public.

123. Only after the BCUC issued its decision in the G-48-09 proceeding, did it become apparent that Order G-38-01 applied to Celgar.[61] By its express terms, Order G-38-01 only concerned BC Hydro and its self-generating customers. Our review in 2008 with FortisBC of the regulatory landscape did not indicate that Order G-38-01 in any way regulated self-generators in FortisBC's service territory.

124. This understanding changed with the issuance of Order G-48-09 in 2009, which extends some of the principles of Order G-38-01 to FortisBC's service territory, although apparently not the same regulatory standard governing access to embedded cost power while selling self-generated electricity. It is my anecdotal understanding that Celgar is the only pulp mill with cogeneration against which the province has taken regulatory action to foreclose embedded cost utility purchases to meet load while selling self-generated electricity.[62]

B. The Ministry of *Energ*y's Position on Self-Generation

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[61] *See*, C-7, BCUC, Order Number G-48-09 (6 May 2009) and C-8, BCUC, Decision Accompanying Order Number G-48-09 (6 May 2009), at 22.

[62] Through Order G-48-09, Canada has prohibited Celgar's access to any utility-supplied embedded cost power while it sells power. And through the net-of-load based GBL of 349 GWh/year that BC Hydro assigned to Celgar in their EPA, Canada has prohibited Celgar access to embedded cost utility power while selling power. <[[redacted]]> *See* Annex A, Celgar Operational Data 1990-2013.

125. Celgar had a series of meetings with the government after the G-48-09 decision to discuss the issue with our power generation and the unfair treatment we believe had resulted from the BCUC's decision to impose a net-of-load standard on Celgar alone among pulp mills. On 24 November 2009, Minister of Forests, Pat Bell arranged a meeting with Celgar, the Minister of Energy, and MEM Assistant Deputy Minister, Les MacLaren. In advance of the meeting, we had prepared a detailed briefing note and presentation for the Ministers.

126. At the meeting, we planned to emphasize how the Province had subjected Celgar to egregiously different treatment. First, we would note that, according to our anecdotal knowledge, certain BC pulp mills were allowed to cancel or alter load displacement agreements, BC Hydro had created an unlevel playing field, because those producers had received BC Hydro assistance in installing their generation capability, and would now in addition be paid for the self-generation that had agreed to use to displace their loads. Second, we wanted to emphasize that Celgar is the only mill in British Columbia which is subject to a net-of-load restriction with respect to its access to embedded cost utility power. Third, we planned to share our belief that BC Hydro had entered into discussions to purchase self-generation from Howe Sound, under an agreement that would allow Howe Sound to sell all generation above its levels in 2001, when Howe Sound decided to stop burning natural gas to power its mill. We would explain that although Celgar had made the same decision in 2001, we were not allowed to sell any of our increased generation while accessing embedded cost power.

127. Having highlighted the Province's less favorable treatment of Celgar, we then planned to ask the government to establish a fair solution to level the playing field in one of two ways. We would request that the government either (1) establish a net-of-load requirement for all self-generators in BC, or (2) allow Celgar to have an historical usage based GBL, so that

Celgar could purchase enough embedded cost power and sell enough power to make its below load net power revenue comparable to those of the other BC mills.

128. Our plan for the meeting was to walk through a presentation highlighting these key points before advancing our proposed solutions. <[[redacted]]>

129. <[[redacted]]>
We left this meeting with the belief government was going to fix the problem they had caused, and we were quite confident at that point that a reasonable solution would be achieved.

130. By 8 January 2010, we still had not heard from the Minister of Energy, so we sent a letter following up from our meeting, explaining that the establishment of a more reasonable GBL for Celgar would level the playing field. We noted the urgency of resolving this issue, because without such a GBL in place, Celgar would be prejudiced in the proceedings before the BCUC to determine the rates it would have to pay FortisBC for embedded cost power. [[redacted]]

[[[redacted]]] This cost increase occurred because even though we had been restricted from purchasing embedded cost power while we were self generating, we were being asked to pay the fixed cost as if we were purchasing that power. It is somewhat like paying to go on highway, and once you are on it, being told you cannot use it, although the highway authority still wants you to pay the toll. As a result, Celgar would be forced to pay almost 10 times more than what our BC Hydro competitors were paying for embedded cost power.

131. I was shocked when we received a letter from the Minister of Energy, on February 22, 2010, that denied our request for a lower GBL. The letter stated that the provincial policy was to allow only sale of incremental electricity, which it defined as "electricity that is new and not previously used to serve a customer's own needs".[63] The Ministry of Energy went on to explain that allowing Celgar increased access to embedded cost power would increase the cost to other ratepayers. These statements suggested that the Province had not considered the examples we highlighted, showing that our competitors were being allowed to do exactly what the letter to prohibited us from doing, and had not otherwise made any effort actually to compare Celgar's treatment to those of the other pulp mills we had identified as receiving better treatment

C. Impact of the G-156-10 Proceeding

132. To Mercer, the significance of BCUC Order G-48-09 was that every self-generator must either be assigned a GBL by its utility or be subject to the net-of-load standard. With this understanding, and in light of FortisBC's refusal to establish a GBL for Celgar, Celgar requested (by initiating the G-156-10 proceeding) that the BCUC assign it a GBL to govern its

[63] C-234, Letter from Blair Lekstrom, Minister, MEM, to David Gandossi, Executive Vice President, Chief Financial Officer and Secretary, Mercer International, and Brian Merwin, Vice President, Strategic Initiatives, Mercer International (22 February 2010).

access to embedded cost power from FortisBC. The idea once again was that if the BCUC assigned and approved a "FortisBC GBL", this BCUC action would activate the side letter agreement with BC Hydro, and thereby rid the BC Hydro-Celgar 2009 EPA of the prohibition on Celgar's sale of below-load electricity to third parties, and return the GBL contained in that agreement to functioning simply a demarcation point for the amount of electricity BC Hydro would purchase from Celgar.

133. In its Order G-156-10, the BCUC refused this request, and instead made matters worse for Celgar by changing the terms of the service it received from FortisBC. Specifically, the BCUC ordered FortisBC to switch Celgar from the time-of-use rate it was using under Rate Schedule 33 to standard firm service under RS 31. RS 31 includes an energy charge (a rate paid based on the actual amount of electricity consumed) of 4.8 cents per kWh, and it also includes a demand charge. The demand charge is broken out into two separate charges (wires charge (C$ 4.29 per kV.A) and a power supply charge (C$ 2.41 per kV.A.)). The demand charge is set based on the highest of either (1) 80 percent of the contract demand, (2) the peak amount of demand in any given billing month, or (3) 80 percent of the peak demand over the previous 11-month period. The average monthly demand charges that Celgar paid in 2012 were based on a peak demand of 43MW, and in 2013, on 40MW, despite the fact that Celgar had actually consumed significantly less electricity than such demand charges would imply. After the BCUC ordered this switch from Rate Schedule 33 to Rate Schedule 31, Celgar's annual electric bill increased dramatically, from around [[[redacted]]] Faced with these extremely high electricity costs, Celgar filed a complaint at the BCUC in December 2010,[64]

[64] C-249, Celgar Application for Reconsideration of BCUC Decision and Order G-156-10 (3 December 2010).

complaining that RS 31 is not appropriate to the standby service Celgar needs when it is fully self-supplying its own load. This proceeding remains pending. In the interim, the BCUC simply set Rate Schedule 31 as Celgar's "interim" rate, subject to adjustment pending the outcome of the complaint process. Three long years later, in 2014, and our rates still remain set at the RS31 "interim" rate and Celgar continues to incur demand charges based on its peak monthly demand.

D. Continuing Regulatory Uncertainty

134. To this day, the regulatory quagmire continues. Celgar has no certainty regarding the rate it must pay for standby service while it is generally meeting its own load. In addition, it has no certainty concerning the rates, terms, and conditions under which it may obtain firm service if it elects not to serve its own load, as the BCUC has not yet ruled on FortisBC proposed stepped rate -- with its complex Made-for-Celgar only notional matching mechanism and NECP rate rider. Finally, Celgar is subject to the uncertainty of the BC Hydro-FortisBC PPA. BC Hydro filed in 2013 a new PPA, which contains different restrictions on self-generators than the Commission approved in Order G-48-09.

135. Until the BCUC issues a decision regarding the rates that Celgar must pay for firm and standby service, we have no certainty with respect to the regulatory parameters that govern Celgar's conduct. BCUC Order G-48-09, and the GBL provisions of our 2009 EPA, and the uncertainty they have created, still preclude us from accessing embedded cost utility power to meet Celgar's load, and thus prevent us from selling below-load power. In the meantime, the robust BC market for biomass-based green energy that existed in 2008-10 has largely disappeared, as I discuss below.

136. These measures also have adversely impacted Celgar in smaller ways. For example, in February 2014, we reached out to FortisBC, seeking pre-approval for a chip screening upgrade project in order to receive a rebate through FortisBC's PowerSense (demand

side management) program. FortisBC informed us that until the BCUC reached a decision on the standby rates for power purchase agreements between FortisBC and Celgar, FortisBC could not determine what it could offer as a rebate. The inability of FortisBC to make even this small determination, demonstrates the systemic impact of the regulatory limbo to which Celgar has been subject. It has paralyzed Celgar's normal functioning and its ability to optimize and build its business. [[redacted]] I have learned from one of my regulatory advisers, who was the former Chairman of the BCUC that the length of the "interim" period with respect to our request for a more appropriate standby rate from FortisBC is quite unprecedented when compared to any other interim period for setting a rate at the BCUC.

137. No other self-generator must purchase backup power with rates computed on the same punitive basis as Celgar. BC Hydro has compensated other pulp mills for agreeing to use self-generated electricity to meet load, and obtained their agreement to do so in exchange for such compensation. BC Hydro has forced Celgar to do that which it has paid others to do. Of course, my understanding of these facts is necessarily anecdotal due to the complete lack of transparency in the Province with respect to how GBLs are determined, along with the EPA terms and other arrangements BC Hydro executes with other self-generating pulp mills in the Province.

V. THE MARKET FOR RENEWABLE GREEN ENERGY

138. The Celgar mill is a large scale bio-refinery that produces carbon-neutral green energy. It uses renewable biofuel — wood chips and other wood inputs — to produce electricity that also is carbon-neutral, due to the life cycle and carbon absorption role of the forest. The sale of green energy provides pulp mills like Celgar with a stable source of revenue that is unrelated to pulp prices.

139. Celgar has open access to transmission lines that allow Celgar to sell its self-generated electricity in British Columbia, as well as to neighboring Alberta, and to the Northwestern United States. It can sell directly, or through traders, such as Powerex or NorthPoint. However, transporting energy over longer distances leads to increased transmission costs and energy losses incurred in transporting electricity through transmission cables. Given these added costs, Celgar's natural markets are those closest to the mill, in British Columbia and adjacent areas.

140. The power market in British Columbia between 2006 and 2007 reflected the strong influence of BC Hydro's power calls. BC Hydro represented the monopoly buyer in BC, and it procured self-generated and IPP electricity through competitive calls. Through its 2006 power call, BC Hydro sought to procure electricity from Independent Power Producers while adhering "to the environmental policy action which established a voluntary goal of acquiring 50 per cent of new supply from 'BC Clean Electricity'" and also supporting the BC policy objective of electricity self-sufficiency.[65] One of the electricity projects to result from BC Hydro's 2006 power call was a contract with Mackenzie Green Energy Inc., in which BC hydro agreed to pay over C$<[redacted] >/MWh for the clean, renewable electricity the Mackenzie Green Energy Centre would generate from burning wood residues from area sawmills. The Mackenzie Green Energy Centre would also produce steam for use by the adjacent Pope & Talbot pulp mill and Canfor sawmill. This contract acted as a price signal in the market, notifying producers and competitors that BC Hydro would be entering the market and aggressively purchasing power through a series of calls, including a later biomass power call. BC Hydro's 2006 call presented information

[65] C-98, Report on the F2006 Call for Tender Process Conducted by BC Hydro (31 August 2006) *available at* https://www.bchydro.com/content/dam/hydro/medialib/internet/documents/info/pdf/info_open_cft_report_on_cft_process.pdf, at 1-3

regarding green energy prices that BC Hydro intended to offer under long term agreements in the Pacific Northwest.

141. FortisBC, as a general matter, is not interested in procuring power from Independent Power Producers or self-generators, because it has had ready access to residual energy through its Power Purchase Agreement with BC Hydro. Nonetheless, from time to time during the summer months, FortisBC will make spot purchases of small amounts of electricity.

142. In 2007, we understood from our competitors that BC Hydro's stepped rate pricing regime (stepped rates have not yet been implemented in FortisBC's service territory) allowed many mills simply to increase the output of their existing generation so that they could begin earning, in effect, a premium for a portion of their existing installed power generation, in terms of the avoided cost of the high Tier 2 stepped rate. These BC Hydro practices seemed to indicate a robust pricing market and we anticipated being able to earn high green energy prices for the sales of our biomass-based, green energy in BC. Based on these market observations, Celgar decided to focus, in the first instance, on selling its generation to BC Hydro, because it offered relatively high prices without the wheeling and line loss costs incurred through long-distance exports.

143. Alberta Power Market. Alberta is a volatile market that has presented a number of valuable spot market opportunities for us. In mid-2006, Celgar began gathering direct market knowledge by participating in the market through its electricity sales with its power broker, NorthPoint. Limited transmission access into Alberta decreased the appeal of exporting there, although we learned from NorthPoint that opportunities to secure long term transmission access did arise occasionally. NorthPoint itself had secured a long-term block of transmission into Alberta from BC. Nonetheless, in 2007/08 we did not consider this type of one-off transmission

availability as an ideal option, given the steady access to the market we would require to successfully sell both our existing generation and the new generation from our power projects.

144. Northwestern United States Market . In 2007/08, the market in the Northwestern United States had become much more stable since its peak in 2001 and 2002, and has remained robust. During 2007 and 2008, we gathered information about this market, not only by looking at Mid-C prices, but also by reviewing BC Hydro reports on utilities, such as Puget Sound Energy, which were entering into contracts at similar pricing to what BC Hydro was paying for biomass energy. We had learned from our earlier power trading through NorthPoint that there was almost always spot transmission available for our energy exports to the Northwest. Based on BC Hydro's projected shortfall of power, it seemed clear that BC Hydro would be net importing, rather than predominantly exporting electricity. In such a scenario, where the BC Hydro lines have power flowing into BC, transmission always is available to schedule power exports in the opposite direction, out of BC.

145. Given the ease of transmission access, and its competitive pricing, exporting to the Northwestern US market was our second choice. We planned to pursue opportunities in that market if we were unable to secure a long-term contract with BC Hydro for the sale of our self-generation. This was our plan for our existing generation as well as our Green Energy Project.

146. Although we were primarily interested in the markets in BC, Alberta, and the Northwestern United States, other markets still could affect the demand and price for our electricity. In Alberta, the supply of electricity from Saskatchewan influenced that market. The US Mid-C market might also be influenced by the prices for power in adjacent markets, as a number of producers sell into many regional markets, which creates a ripple effect throughout the various power markets.

147. In Celgar's case, its power trader, NorthPoint, was registered in many markets, including California. This would allow Celgar to sell into California if the market price was high enough to cover losses and transmission costs. An increase in prices in California, in turn, could influence other markets by drawing power from the Pacific Northwest, leading to increased prices at the Mid-C trading hub. Thus, pricing in BC is never truly separate from other markets. From time to time, when shortages occurred in BC, our power trader would transact with Powerex and FortisBC on an hourly basis, selling our power at Mid-C and even higher prices depending on demand and the constraints that existed in the BC system at that time.

148. Present Market Price Deterioration. More recently, regional wholesale energy prices have declined and demand for clean energy in BC has dropped. The market for biomass-based green electricity has changed significantly, to the point that it is unlikely that Celgar could today enter into long-term contracts to sell its self-generated electricity at the price BC Hydro was paying between 2008 and 2010 for long-term electricity sales.

A. The Importance of Electricity Sales to the Economics of Celgar's Pulp Mill

149. The sales of self-generated electricity could represent a significant source of revenue for the Celgar Mill and Mercer. However, in a normal production year, such as 2012, power sales from the Celgar Mill accounted for [[[redacted]]]. Celgar's inability to maximize its energy revenues has a severe impact on the economics of the Celgar Mill's overall operation.

150. To understand the impact of energy revenues on pulp operations requires some basic background on pulp mill economics. There are four basic financial drivers in the pulp business:

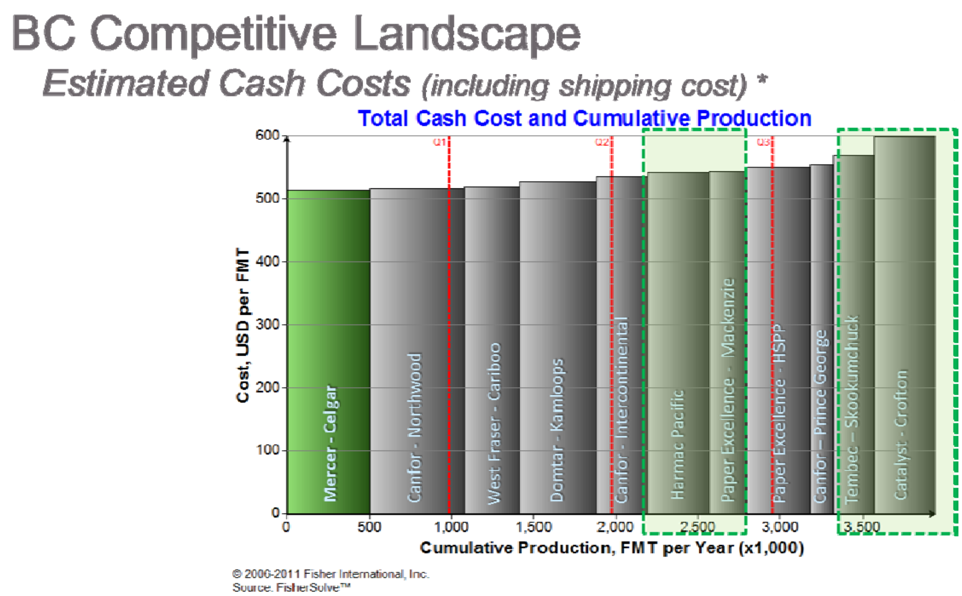
Revenue	Pulp Revenue & Energy Revenue
- Cost	Cost to ship product to market
- Cost	Non-fiber conversion costs *(chemical, labour, gas, property taxes)*
- Cost	Fiber costs *(this is half of a mill's operating cost with 53% of this being used in energy production with the remaining 47% used as pulp)*
= EBITDA	Earnings Before Interest, Tax, Depreciation and Amortization *(the performance achieved after accounting for the above drivers)*

Of these four drivers, revenue has the greatest impact, but wood fibre cost, which accounts for half of the total operating cost, is the next biggest driver. [[[redacted]]]

151. Mercer was able to assess the competitiveness of the Celgar mill by building a Cost Benchmarking Model using the FisherSolve Platform, a comprehensive database and system that covers each grade of pulp and every mill in the global pulp and paper industry. With its detailed database of installed equipment and performance specification, as well as regional input costs, the system can estimate the cost position of every NBSK mill in the world, and provide subscribers with the ability to do robust competitive analysis. To illustrate the relative competiveness of BC Pulp Mills, prior to the Bioenergy Phase I Call, I have included a cost curve that shows the relative cost competiveness of the BC mills, assuming that no mill would be permitted to engage in below-load power sales (or the simultaneous purchase embedded cost utility power while selling electricity).[66]

Figure 6

[66] This analysis includes above load sales of surplus generation as revenue.



152. The FisherSolve Platform database generates regional costs for wood, and uses the known installed equipment and estimated efficiency levels for each mill to estimate the relative cost positions of each producer. The model allows for adjustment of various input costs, and I have adjusted the wood costs in this curve based on my knowledge of regional wood pricing. Wood costs vary regionally across BC given localized supply and demand, topography (mountain ranges), and transportation distances. The cost curve above thus reflects my knowledge of those regional variations and my understanding of where fibre is moving in the province. Taking into account these regional variations and the relative equipment efficiencies and scale of the mills as measured by the FisherSolve Platform, the cost curve for BC Pulp mills is relatively flat with an approximate difference of less than \$100/tonne between the highest cost producer and the lowest.

153. Pulp production and prices tend to be highly cyclical. At the downturn in the economic cycle, when demand and prices are low, the least efficient mills typically must shut down, at least temporarily. 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

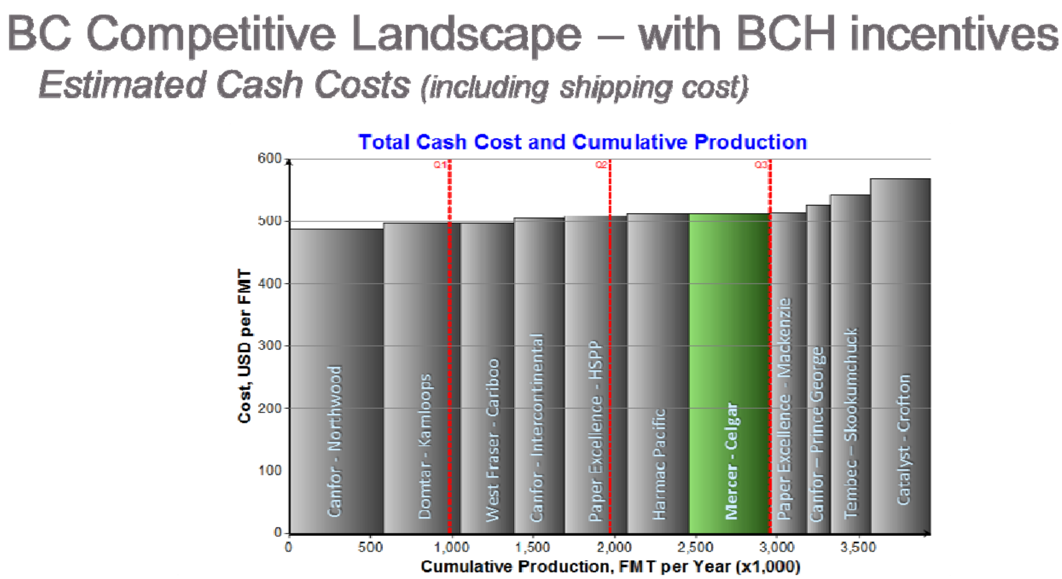
their variable costs exceeded their revenue. Considering that there are only approximately 15 million tonnes of market NBSK produced globally, when even one pulp mill curtails supply, pulp prices rise. This allows the remaining pulp mills to receive higher prices for their pulp, and more adequately to cover their fixed cost as revenues begin to further exceed variable costs by a wider margin.

154. In BC, a mill shutdown will also have an additional near-immediate regional impact, because it will cause the cost of fibre, a key component in pulp, to drop. Celgar competes directly for fibre (wood chips) with Harmac, Howe Sound, Crofton, Skookumchuck and Domtar Kamloops. [[redacted]]

155. I also have generated a cost curve that uses the same inputs as the above curve, but also accounts for the ability of the mills to have access to embedded cost utility power while selling electricity (permitting them to sell self-generated electricity below their load). The net benefit of such arbitrage is reflected as a cost reduction on the cost curve. This factor significantly alters the curve.[67] The curve illustrated below was prepared in 2011 based on Mercer's anecdotal knowledge of which of its competitors were selling below load power as well as which ones may sell below load in the future and the associated volumes:

Figure 7

[67] The cost curve is generated using 2011 data. As a general matter, the relative nature of the curve does not change materially over time.



156. The shift in the relative competitive positions of the mills is quite dramatic when we factor in the extent of their ability to sell self-generated electricity below their loads. All else being equal, a pulp mill with higher relative below-load electricity revenues can afford to pay more for wood chips, which will likely drive up prices that Celgar and other mills pay for those chips over the long term. The electricity revenues act as a buffer for the less efficient mills, sheltering them from low pulp prices by providing an alternative revenue stream.

157. Looking at the last pulp cycle downturn in June 2012 to December 2012, when list prices in China dipped to US$620/ADMT, the impact of this revenue cushion can be easily observed.[68] Mills that BC permits to sell electricity below their load did not shut down, even

[68] NBSK pulp is produced predominantly in Canada, the United States, Scandinavia, and Russia. Mercer subscribes to commercial services that provide monthly NBSK pulp pricing data for Europe, the United States, and China. No published data are available for the Canadian market alone. Northern Europe has historically been the world's largest market, and NBSK is the premium grade of pulp. Therefore, the European NBSK market pricing generally is used as a benchmark price by the industry, and it is the benchmark Mercer generally uses in portraying market conditions to its shareholders and in its securities filings. RISI, a leading information provider to the global forest products industry, collects data reflecting list prices for pulp.

Footnote continued on next page

when pulp prices fell. Celgar has not been able to maintain its position on the above cost curve, because the Province has restricted it from accessing embedded cost power while it is selling its self-generated electricity.

B. Experience with Rosenthal and Stendal

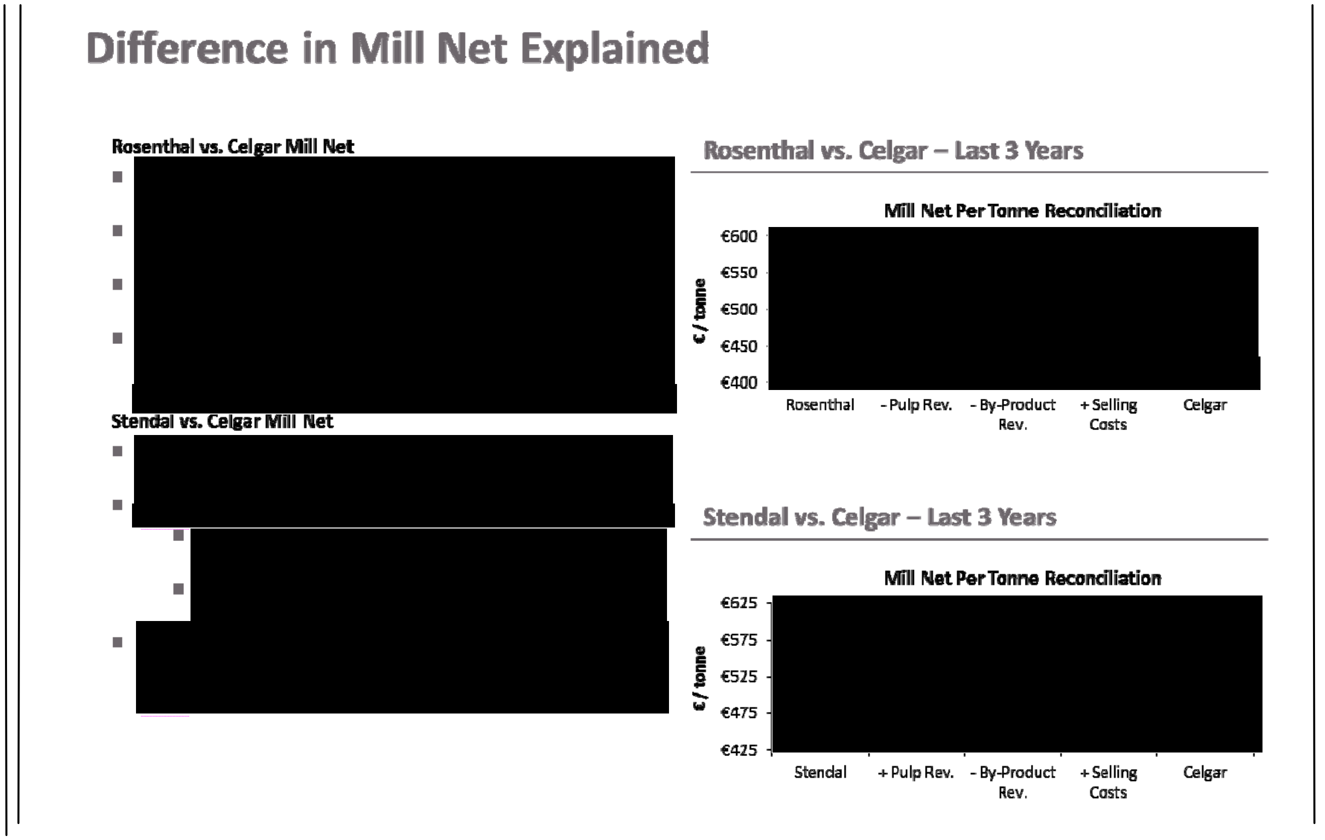
158. Mercer's mills in Germany have been some of the top performers in the industry worldwide. While Celgar does not rate as high in terms of global competitiveness, it is among the most efficient and competitive mills in BC.

159. [[redacted]].

Footnote continued from previous page

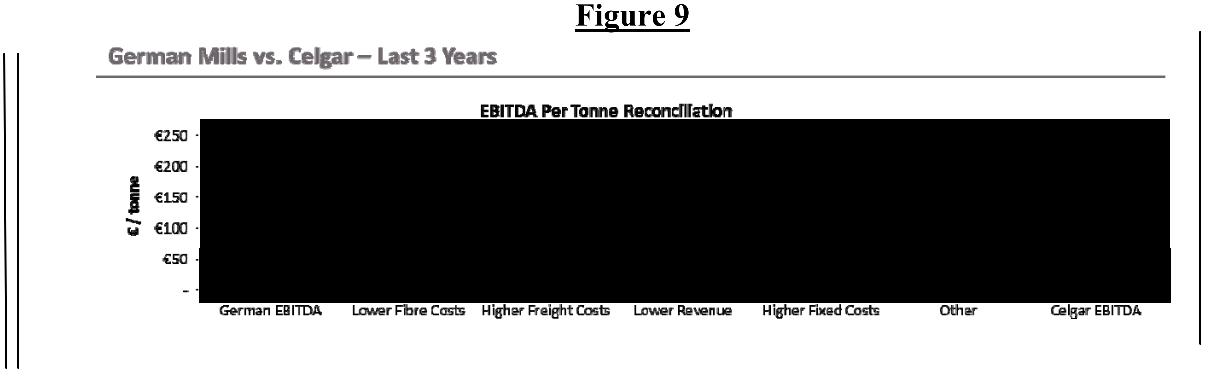
However, the RISI prices do not reflect discounts so actual prices for pulp received by producers are likely to be lower than their reported prices.

Figure 8



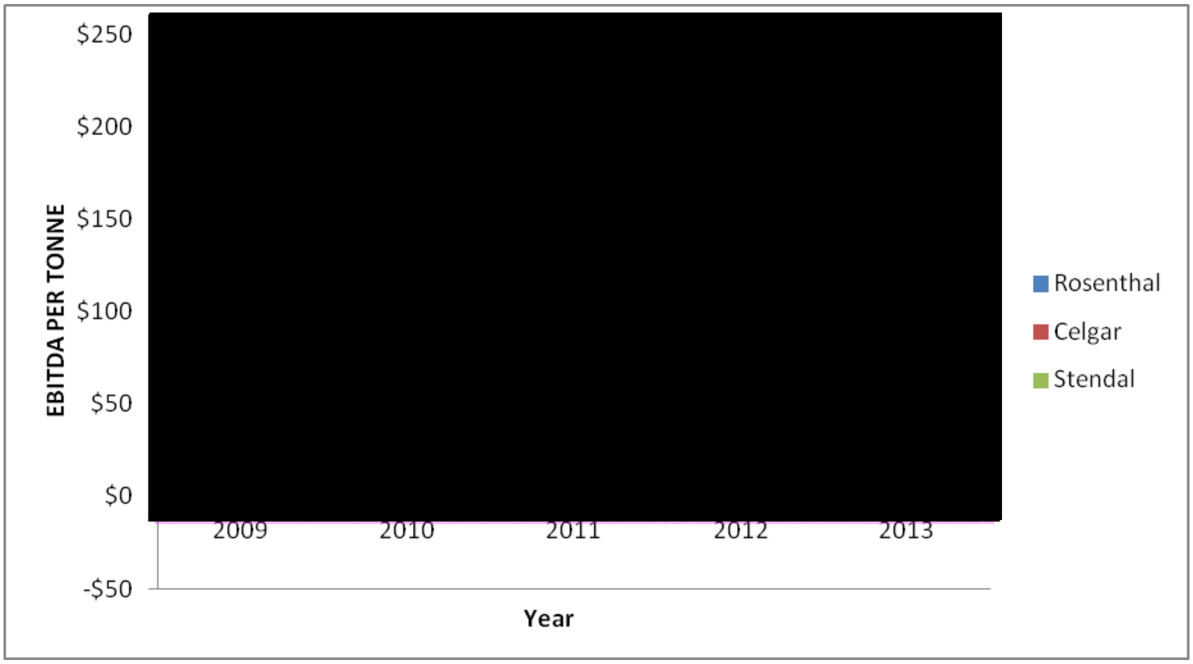
160. [[redacted]].

Figure 9



161. The following table shows the relative performance of Mercer's different mills in EBITDA per ADMT of pulp produced from 2009 through 2013.

<u>Figure 10</u>
Comparative Performance of Mercer's Rosenthal, Stendal and Celgar Mills EBITDA per ADMT of Pulp 2009-2013



162. In Germany, as in BC, Mercer has focused on improving electricity revenue and earnings, even though our German mills have been earning significantly higher revenues from power generation than the Celgar Mill. Germany's focus on bioenergy and renewable energy began earlier than in North America, with significant price appreciation..

163. Germany utilizes feed-in tariffs as a policy mechanism designed to accelerate investment in renewable energy technologies. They provide investors with a fee (a "tariff") above the market rate for electricity. The mechanism provides long-term contract like pricing to renewable energy producers, typically based on the cost of generation of each type of technology. For instance, technologies such as wind power are awarded a lower per-kWh price, while technologies such as solar PV and tidal power are offered a higher price, reflecting higher

costs. Germany has offered feed-in tariffs for electricity generated through biomass energy and has set up other incentive programs to encourage the use of biomass for heating. In 2009, the government began providing the Rosenthal and Stendal mills feed-in tariffs for their surplus biomass electricity generation. This put the Mercer mills on even-footing to compete for fuel with all other firms that relied on wood fibre to generate energy.

164. In Germany we operate on a 'net-of-load' basis. Importantly, however, the net-of-load approach to electricity sales is standard for all mills in the country. The German government endorses an energy policy that recognizes the inherent value of Green Energy and its benefits for society. But most importantly, the energy policies and regulatory structures that Germany has in place create a level playing field for all chemical pulp mills. For example, Mercer's two German pulp and energy operations are located in two different regions with two different utilities providing each mill service. Yet, the policies and incentives for the sale of green energy to the grid are the same in both locations. The government and its regulatory entities do not give one pulp mill an advantage over another pulp mill. Instead, they maintain a level playing field for all meaning no one self-generator is better off financially than another as a result of government policy or interpretation of policies.

165. The situation in BC is quite different as our competitors are allowed access to embedded cost utility power while selling their self-generated power. This places Celgar at a competitive disadvantage both globally and regionally.

166. Moreover, [[[redacted]

[redacted]]].

VI. MERCER IN COMPARISON TO OTHER SELF-GENERATORS

167. Celgar considers other NBSK mills selling into the North American and Asian marketplaces as its competitors. In addition to producing pulp, these mills have the capacity to self-generate electricity. It is not self-generation alone that renders those mills suitable comparators for Celgar, however. Instead, as I explain below, these mills are similar to Celgar because they share the same economic structure. This structure distinguishes Celgar, and other NBSK mills, from independent power producers and utilities and sawmills, as detailed below.

A. Pulp Mills Are Distinct From Independent Power Producers and Utilities

168. Despite their electricity generating capacity, pulp mills with self-generation are not like utilities and independent power producers. To begin with, industrial self-generators are subject to separate and distinct regulatory regimes. The supply factors for pulp mills also differ greatly from those of independent power producers. In the pulp mill setting you have one process that yields two interrelated products: a pulp mill cannot produce electricity unless it is also producing pulp. Accordingly, if low pulp prices or high fibre prices force a mill shutdown, that mill can no longer generate electricity. Electricity sales and pulp sales intertwined. Electricity production is also codependent on the availability of the underlying fuel source. If black liquor is not available, a pulp mill cannot produce power. These interrelated supply chains also distinguish pulp mills from other self-generators outside the pulp industry.

B. Pulp Mills Are Distinct From Utilities

169. In addition to these differences between Celgar and electricity producers outside the pulp and paper industry, several other differences distinguish Celgar from utilities, such as the City of Nelson. First and foremost, by virtue of its status as a utility, the City of Nelson

operates at embedded costs rates, although it is not subject to the same regulation as the FortisBC as it is owned by a City and has certain regulatory exemptions. Pursuant to the utility regime, Nelson builds all of its costs, including transmission, power purchases, and operating expenses, into the rate charged to its customers. This rate, determined by the city council, also includes a profit margin for the utility. If the rate that FortisBC charges Nelson is increased or Nelson's utility unionized employees negotiates higher wages, Nelson will pass this cost along to its customers while continuing to earn a reasonable return on their investment, as determined by the city council. Similarly, if there is a costly maintenance issue at the City's hydroelectric plant, it will also pass this cost on directly to its customer base.

170. FortisBC is entitled to a similar guaranteed rate of return on its invested assets by virtue of its status as a utility. FortisBC files revenue requirements every year based upon its estimated system costs and asks for rates to be increased so that it may continue to earn a reasonable rate of return, which accounts for its rising costs.

171. Celgar does not have the advantage of automatically passing costs along to its customers. If our wood costs rise, or we have higher maintenance costs related to a turbine or boiler repair, we will not be entitled to recoup the increased cost of that maintenance by receiving a discount on power. The price of embedded cost power is influenced only by events impacting FortisBC, not events that impact Celgar. Therefore, unlike a utility, we will be unable to recover additional revenue to earn a reasonable rate of return on our generating assets, after suffering a loss.

172. Another difference between Celgar and the City of Nelson is that the City of Nelson has a hydroelectric generating asset. The City obtained water rights from the Province to power this asset in exchange for a nominal fee. Because the City of Nelson owns these rights, if

another party wished to constrain this hydroelectric supply, it would be required to negotiate with the City of Nelson. Celgar does not have this leverage over its inputs. Celgar uses wood chips rather than water to power its turbine, and the price for those chips is driven by demand from other pulp mills, which is in turn driven by the price of pulp. Although historically, the net effect of low pulp prices would have impacted demand from all mills, today, even with low pulp prices, one mill may be able to afford to pay more for wood chips because it is earning extra revenue from electricity sales. The added spending power of such a mill drives up the price of wood chips required by Celgar.

C. NBSK Mills Are Distinct From Sawmills

173. Celgar also differs from saw mills with self-generation, which are subject to different supply and demand conditions. Sawmill economics are driven by housing starts and construction, rather than paper and tissue demand. Notably, sawmills use different fuels than pulp mills. Rather than relying on wood chips and black liquor, as Celgar does, saw mills burn only hog fuel and sawdust to generate electricity.[69] While they could burn chips, they normally do not, because they can receive a higher price for chips than they would for the hog fuel and sawdust they burn.

174. Because sawmills supply chips rather than competing for them, sawmills and pulp mills are in a symbiotic relationship. The sawmills supply chips to the pulp mills, and the revenue generated by chip sales helps cushion downturns in the lumber market, allowing sawmills to continue running even when prices for lumber are low. Sawmills that have self-generation are less dependent on chip revenue and are able to rely on electricity sales to cushion the impact of a drop in lumber prices. Strong sawmill performance, in turn, benefits pulp mills

[69] By way of comparison, hog fuel consumption accounts for less than 10 percent of Celgar's fuel utilization.

by keeping the price of chips low and provide a steady supply of residual wood chips, which are a byproduct of sawing lumber. These residual wood chips are cheaper than wood chips manufactured by chipping whole logs.

175. Another difference between saw mills and pulp mills, like Celgar, is that sawmills generally install smaller generation capacity when they invest in electricity generation.

The information furnished above is faithful and true in its entirety and was developed on the basis of my best knowledge.

In Vancouver, British Columbia, on the 28 day of March, 2014.

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Brian Merwin

< Annex A >

Celgar Mill Historical Data									
	A	B	C	D	E	F	G	H	I
						A+B+C-E			
Year	Turbine Generator #1 Output (MWh/year)	Turbine Generator #2 and Turbine Generator #3 Output (MWh/year)	Annual Purchases from FortisBC (MWh/yr)	[redacted]	Physical Export Power Sales (MWh/yr) (before losses)	Celgar Annual Mill Load (MWh/yr)	Natural Gas Used for Steam Production (GJ/yr)	Pulp Production (ADMT/Yr)	Electricity Intensity (MWh/ADMT)
1990	15,949	-	114,161		-	130,110	713,923	174,235	0.75
1991	13,890	-	122,320		-	136,210	708,154	151,695	0.90
1992	10,583	-	129,746		-	140,329	1,926,553	132,570	1.06
1993	5,866	31	190,905		-	196,802	2,342,843	183,335	1.07
1994	-	236,253	98,256		-	334,509	2,187,618	356,654	0.94
1995	-	308,810	22,303		20,100	311,013	2,272,132	374,054	0.83
1996	-	287,352	28,599		25,597	290,354	2,182,835	352,173	0.82
1997	-	251,348	57,712		12,250	296,810	2,084,008	381,576	0.78
1998	-	231,310	28,306		10,985	248,631	1,859,556	295,647	0.84
1999	-	301,600	19,824		22,470	298,954	2,071,780	396,096	0.75
2000	-	278,780	31,878		17,892	292,766	3,799,135	410,414	0.71
2001	-	190,507	88,704		4,384	274,827	1,360,898	352,263	0.78
2002	-	223,970	93,702		3,948	313,724	1,038,254	402,458	0.78
2003	-	258,666	71,400		4,914	325,152	946,846	422,504	0.77
2004	-	271,326	59,220		14,028	316,518	769,525	434,117	0.73
2005	-	300,192	54,432		26,202	328,422	655,373	444,694	0.74
2006	-	290,413	61,523		22,213	329,723	629,254	438,855	0.75
2007	-	350,641	22,560		23,926	349,275	303,006	476,242	0.73
2008		374,359	24,636		36,470	362,525	432,937	485,893	0.75
2009		359,897	26,259		35,372	350,783	472,353	466,855	0.75
2010		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	502,107	[redacted]
2011		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	488,007	[redacted]
2012		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	490,018	[redacted]
2013		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	447,935	[redacted]