In the LCIA
No. 111790

THE UNITED STATES OF AMERICA,

Claimant,

v.

CANADA,

Respondent.

UNITED STATES REPLY

CORRECTED NON-CONFIDENTIAL VERSION

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INTRODUCTION

1. This case is about Canada's longstanding practice of selling underpriced timber affected by the mountain pine beetle ("MPB timber") to softwood lumber producers. In the 2006 Softwood Lumber Agreement ("SLA"), the United States and Canada agreed to a regime of Export Measures that Canada administers internally to control its exports of softwood lumber into the United States. The SLA also grandfathered a newly-reformed timber grading and pricing system that British Columbia ("BC") had put into place for the BC Interior just months before the SLA was signed. Under these reforms, BC is supposed to grade and sell MPB timber according to its suitability to make lumber and not automatically sell it for minimum stumpage as it had done before. After applying the reforms for the first six months of the SLA, BC responded to the collapse of the North American housing market by assisting its softwood lumber producers through the old practice of selling MPB timber for minimum stumpage. In effect, it is partially reimbursing the softwood lumber producers for their payment of export charges under the SLA regime. This offsets the Export Measures in the SLA, and, as a result, Canada has circumvented the Agreement. The United States is entitled to a remedy that accounts for these benefits.

2. Before 2006, BC had sold all MPB timber for the minimum stumpage fee simply because it was dead and dry. Given the MPB epidemic then facing the BC Interior, however, BC decided in April 2006 to reform its timber grading and pricing system to recognize, for the first time, that dead and dry logs harvested from trees killed

by MPB retain significant value as a source of lumber. These reforms would allow the provincial government to obtain more revenue from the sale of MPB timber.

3. Under the new system, BC would price and sell *all* timber harvested from Crown forests based on its suitability for lumber, not, as before, on whether it was harvested from trees that were live or dead and dry. To measure lumber suitability, BC would apply the "50/50 rule" to timber, *regardless of whether it was dead and dry*; it would grade timber that was generally suitable for lumber as sawlog "Grade 1" or "Grade 2;" and it would sell it at the price generated by BC's Market Pricing System ("MPS"). The Grade 1 and Grade 2 stumpage prices would specifically take into account the extent of any MPB damage in a given stand of trees and would fluctuate depending on the amount of MPB damage. By contrast, BC would grade timber that was not generally suitable for lumber as "lumber reject" Grade 4 and would sell it at the flat rate of C$0.25 per cubic meter. In short, under the reformed system, the log's usability for lumber would determine whether BC would command stumpage for a sawlog quality log at the variable rate, or whether it would command stumpage for a lumber reject log at the fixed minimum rate of C$0.25 per cubic meter. In announcing the reforms, BC predicted that stumpage fees for MPB timber would increase and explained that the new system would better reflect market conditions.

4. In the SLA, the United States agreed to have this newly-reformed provincial timber pricing system, among others, grandfathered by the Agreement. Canada, in turn, agreed that BC (or any other province) could change its timber pricing system but only if the change maintained or improved the extent to which the system reflected market conditions.

5. The United States has honored its commitments in the SLA (relinquishing US$5 billion in collected duties and refraining from invoking certain domestic trade remedies), but Canada has not. The reforms worked as BC had predicted in the months after the Agreement took effect, but in 2007, just six months after the parties entered into the Agreement, BC began to misgrade as Grade 4 timber that was suitable for lumber and should have passed the 50/50 rule, and then sell that timber at the flat minimum rate of C$0.25 per cubic meter. BC's action of selling misgraded public timber that should have been graded as Grade 1 or Grade 2 for the flat minimum stumpage rate has provided a tremendous benefit to lumber producers. We know this because BC's own data show that dead and dry timber *during the very same timeframe* was not only suitable for merchantable lumber, but also, in fact, was manufactured into merchantable lumber. We also know this because BC's lumber output emerging from the mills reflected percentages of merchantable lumber that are entirely inconsistent with the amount of Grade 4 timber going into the mills. It circumvents the SLA for BC to sell lumber-suitable MPB timber for the Grade 4 "lumber reject" stumpage rate.

6. To meet its burden of proof, the United States demonstrated in its Statement of Case that any decline in timber quality due to MPB accounts for no more than a very small portion of the otherwise substantial increase in Grade 4 that started in 2007 and continues to this day. By underpricing these logs, Canada has provided its softwood lumber producers the benefit of a primary input for their products for a price much lower than dictated by the system grandfathered by the SLA. Selling timber for less than that required by the provincial pricing system constitutes an action taken on the part of Canada or one of its provinces. According to Article XVII, when Canada or one

of its provinces takes an action that provides a grant or benefit to softwood lumber producers, that action circumvents the Agreement, subject to limited exceptions that do not apply here.

7. Canada's response in its Statement of Defence is two-fold. First, Canada attempts to elevate the claimant's burden of proof far beyond anything required by the terms of the SLA. It contends that the United States has not proven any actual underpricing because it relies on circumstantial evidence and does not identify any action by BC, and that, to the extent the United States identifies specific actions, it has not proven that they directly caused any misgrading. Second, Canada offers one – and only one – explanation for the sudden rise in Grade 4, namely an abrupt shift in the harvest of longer-dead MPB timber, a singular explanation which Canada vows to prove, but wholly fails to prove. In fact, the new data that Canada itself provides establishes that the rise in Grade 4 has been due to a province-wide shift in grading practices and policy to divert more MPB timber to Grade 4, which BC has been selling at the minimum stumpage fee of C$0.25 per cubic meter. By the end of the Statement of Defence, Canada leaves the Tribunal with nothing but a single, unproven cause for the increase of Grade 4, built on a series of disconnected and implausible contentions. These allow for no other conclusion but that Canada has breached the SLA.

8. Canada's first line of attack is to claim that the United States has failed to identify any direct evidence of an action by Canada and that circumstantial evidence is insufficient to meet its burden of proof. Presumably Canada means that, to establish a breach in this case, the SLA requires the United States to present to the Tribunal individual logs with their assigned grades and an independent laboratory assessment of

the volume of merchantable lumber that could be derived from those logs. But Canada fails to identify any language in the SLA requiring any particular form of evidence as the exclusive means of proving a circumvention under Article XVII. More importantly, the United States would never have access to direct evidence of systemic misgrading of logs because that data is maintained by Canadian mills; circumstantial evidence is the only type of evidence that could ever prove its claim.

9. It is well-established under international law that circumstantial evidence is sufficient to prove a claim particularly where other evidence is unavailable. Here the circumstantial evidence is overwhelming that BC is selling underpriced timber to Canadian softwood lumber producers. Publicly-available data, data Canada released in disclosure, Canada's data regarding the timing of the MPB outbreak, data regarding the shelf-life of MPB timber, the results of BC's own Mill Studies, and Canada's own salvage economics theory, all reveal Canada's single, stated reason for the rise in Grade 4 – timber deterioration – is unsupported. Thus Canada's own data establishes that the rise in Grade 4 was necessarily due to misgrading. Canada circumvented the SLA by selling this misgraded MPB timber for minimum stumpage, thereby benefiting its softwood lumber producers.

10. In its second line of attack, Canada provides the single, unproven cause for the rise in Grade 4 – a sudden shift in the harvesting of longer-dead MPB timber. Canada does not so much as *deny* that BC has resumed pricing MPB timber at a salvage rate as *defend* it. According to Canada, BC is grading the MPB timber as Grade 4 because it has been dead and dry for more than two years and thus is of poor quality. Canada completely ignores that BC enacted the 2006 reforms specifically to address BC's

historical underpricing of *MPB timber*, and that the goal of the reforms was to cease pricing timber based solely on whether it was dead and dry. By pricing timber based on *how long it had been dead and dry*, Canada essentially concedes that BC's April 2006 reforms grandfathered by the SLA abruptly became all for naught, just months after the SLA went into effect.

11. Canada further maintains that BC could not have anticipated the sudden rise in dead and dry MPB timber (or the quality of MPB timber). Given the reason for the 2006 reforms, and in light of all the evidence marshaled by both parties in this arbitration – evidence that demonstrates that most MPB timber *can be and is used* for lumber – Canada's view of the events following the signing of the SLA is implausible. But even if Canada were correct that there was a sudden, sharp, and unanticipated rise in dead and dry timber in 2007, it still would not excuse BC's failure to apply the grandfathered system. Canada wholly fails to demonstrate that the grandfathered system could not account for the alleged rise in longer-dead MPB timber or the attendant deterioration in quality. The whole purpose of the April 2006 reforms was to grade MPB timber based on whether it could be made into lumber, not whether it was dead and dry. Under the reforms, BC is supposed to charge lower stumpage fees for Grade 1 and Grade 2 sawlogs to account for any adverse effects of MPB, with only unusable timber going to Grade 4. Despite what Canada implies, it is inconsistent with the SLA for BC to use the deterioration in quality as a blanket excuse to divert lumber-suitable MPB timber into Grade 4 and charge the minimum stumpage fee.

12. But Canada insists (again, implausibly) that the April 2006 grading reforms, including the 50/50 rule, never had anything to do with the lumber that timber

will produce, and that under the system grandfathered by the SLA, BC may sell to lumber mills any amount of Grade 4 timber that is merchantable quality, without breaching the SLA. In other words, Canada effectively concedes that there was a higher and higher amount of Grade 4 timber entering BC mills after 2007, and that the mills were able to manufacture merchantable lumber from that timber. To the very limited extent Canada even acknowledges the April 2006 grading reforms and the 50/50 rule, Canada implies that they are inconsequential and were never of any moment to the parties. Canada is simply wrong. Canada's claim that Grade 4 was not intended to correlate with lumber output defies the stated, undeniable purpose of the 2006 reforms, as well as the definition of the 50/50 rule. That the 50/50 rule is not intended to predict any given log's actual lumber output in no way means that the 50/50 rule has a purpose other than to correlate with a log's suitability to be made into lumber.

13. To subordinate the role of the 50/50 rule even further, Canada contends that none of its scaling practices have any correlation with the rule and that all of its practices were grandfathered by the SLA, regardless of how outdated or disconnected from the new system they are. But the BC scaling conventions that Canada disparages as inconsistent with the 50/50 rule were extensively tested and developed as part of the April 2006 reforms — reforms that *preserved* the 50/50 rule. The later, post-SLA changes to the Scaling Manual were not tested to determine whether they maintain or improve the extent to which the system reflects market conditions and were *not* grandfathered by the SLA. Moreover, Canada has failed to prove that they fall within any exception in Article XVII.

14. To the contrary, the post-SLA changes to the Scaling Manual were plainly aimed at treating MPB timber differently from other timber and diverting more and more MPB timber to Grade 4. Although Canada claims that the post-SLA scaling changes were enacted to increase consistency and accuracy, they facially promoted *inconsistent* grading of MPB timber as compared with other timber. Thus, Canada has systematically tried to undermine the importance of the 50/50 rule while elevating the importance of other flaws in timber, such as "checks," or cracks. Canada essentially has cast aside the 50/50 rule and instead underpriced any log that either shows checking or *could show* checking, regardless of its merchantability. This is circumvention under the SLA.

15. Largely ignoring the existence of the April 2006 BC grading reforms, Canada promises the Tribunal that it will prove that the sharp rise in Grade 4 timber in 2007 was due to a sudden and unexpected shift in forest practices that caused BC's softwood lumber industry to harvest longer-dead MPB timber. Canada's claim is implausible in terms of geography, timing, its own theory of salvage economics, and simple logic. The peak of the MPB outbreak did not occur in all regions of the BC Interior at once, so Canada's theory that there was a large uniform increase in Grade 4 across the Interior is unsupportable. As a matter of forestry and business sense, Canada fails to explain why its producers would suddenly shift from harvesting trees in green-stage attack to harvesting trees in red-stage and grey-stage attack in 2007. At a minimum, such a shift would have been gradual and, thus, cannot account for the sharp rise in Grade 4 in 2007 and after. Moreover, BC's own Mill Studies consistently demonstrate that there is little reduction in lumber volume and quality in MPB timber that was killed more than five years before. Even taking everything Canada says as true, it

still has not come close to justifying the sharp and pronounced rise in Grade 4 logs beginning in 2007, as most of the logs still should have been graded as Grades 1 or 2 under the grandfathered system.

16. Finally, to posit that red-stage and grey-stage attack timber is not suitable for lumber, contrary to all available evidence, Canada offers the *post-hoc* spectacle of one of the Mill Study authors repudiating his own work. The Mill Studies were BC-commissioned studies conducted explicitly to create benchmarks in the Interior so that BC and the BC industry would know better what the long-term merchantability of MPB timber would be. BC employed experienced industry scientists and invested significant public monies in the studies. Contemporaneous statements by BC officials and industry confirm that. Yet now Canada impugns the studies' value and integrity. In addition to having a Mill Studies' author criticize his own work, Canada has engaged others to disparage his work, which BC had commissioned and paid for with public monies. This is all in an effort to minimize the Mill Studies' purpose and scope, despite contemporaneous representations that the Mill Studies indeed were intended to have a purpose and utility beyond providing "snapshots" of no discernible application.

17. In short, to refute the demonstration of misgrading in the Statement of Case, Canada's Statement of Defence provides a string of implausible contentions that all share one common thread — that BC's grading reforms in April 2006 were all for naught and therefore the grading system grandfathered by the SLA is worthless in ensuring that BC sells MPB timber according to its suitability for lumber. According to Canada, the 50/50 rule has no purpose or effect because it is dissociated from predicting lumber output, as are the scaling conventions. According to Canada, the Mill Studies had no

purpose or effect because they were mere isolated "snapshots" and presumably subjects of only idle curiosity. According to Canada, BC's contemporaneous predictions that stumpage for MPB timber would increase following the April 2006 grading reforms were hollow because BC could not anticipate the volume of longer-dead MPB timber that would be in its forests in the following year.

18. Given this, Canada has failed to fulfill the promise in its Statement of Defence that it would prove that the rise in Grade 4 timber resulted from an increase in longer-dead logs, logs that – if Canada is to be believed – were unsuitable for lumber production. The only logical explanation for the sharp and sudden rise in Grade 4 in 2007 and beyond is the collapse of the North American housing market and the pressure BC felt to aid its industry. To be sure, lumber producers on both sides of the border have suffered since the housing market collapsed, and BC, in particular, has felt the effects of the MPB. But BC could have addressed the effects of the MPB without circumventing the SLA. The BC timber grading system grandfathered by the SLA accounts for the effects of the MPB by reducing the variable stumpage rates for Grade 1 and Grade 2 logs to reflect diminished value caused by the MPB. But the SLA does *not* countenance diversion of lumber-suitable MPB timber into Grade 4. Thus, although BC's instincts to aid its suffering lumber industry may be understandable, they do not excuse Canada from its obligations under the SLA. The parties' Agreement should be enforced, and compensatory adjustments to the Export Measures are required to remedy Canada's breach.

19. In this reply, the United States first addresses liability by discussing the most important failure in Canada's defence – Canada's own data – which not only fails to

support Canada's contentions, but actually supports the claim in this arbitration. The data show that the share of logs used to produce lumber *did not decrease significantly* between 2006 and 2009 despite Canada's claim that the volume of longer-dead trees increased significantly during that time period. This is confirmed by Canada's own Mill Studies, despite Canada's sudden disavowals of them.

20. This reply next addresses the purpose and application of the 2006 grading reforms that were grandfathered by the SLA, noting first, that Canada fails to acknowledge that those reforms worked as planned for approximately one year, and explaining in detail how Canada's application of those reforms has been inconsistent with the intent and letter of the reforms themselves. Next, the reply refutes Canada's lone explanation for the sudden rise in Grade 4, and shows that it is implausible, including a discussion of Canada's understanding of salvage economics, the role of technology, and opening of the lumber market to China.

21. Finally, the liability section concludes with a discussion of the other myriad ways in which Canada has encouraged the misgrading that has led to BC's underpricing of timber, including kiln warming, the manipulation of local knowledge, new bucking and sweep policies, and changes to the scaling manual, explaining that Canada has created a false dichotomy in the United States' claim. The claim is that Canada has taken the action of selling underpriced timber that has been misgraded. Canada has *accomplished* this in a variety of ways, but the breaching action is the selling of timber at less than its value.

22. In the remedy section, the United States first explains the fundamental flaws in Canada's interpretation of the Anti-circumvention provision, addresses the

Awards from previous arbitrations under the SLA, and rebuts the arguments made by Canada's expert, Professor Joseph Kalt.

LIABILITY

23. The Anti-circumvention provision of the SLA states in relevant part that:

> 1. Neither Party, including any authority of a Party, shall take action to circumvent or offset the commitments under the SLA 2006, including any action having the effect of reducing or offsetting the Export Measures or undermining the commitments set forth in Article V.
>
> 2. Grants or other benefits that a Party, including any public authority of a Party, provides shall be considered to reduce or offset the Export Measures if they are provided on a *de jure* or a *de facto* basis to producers or exporters of Canadian Softwood Lumber Products.[1]

24. To establish a circumvention under the ordinary meaning of Article XVII, the United States bears the burden to demonstrate that Canada, through BC, provided a benefit to softwood lumber producers by selling timber at prices lower than dictated by the timber pricing system grandfathered by the SLA. To meet this burden under the circumstances of this case, the United States must demonstrate that (1) the rise in Grade 4 timber starting in 2007 has been due to misgrading; and (2) that BC has been selling underpriced timber to lumber producers due to misgrading. The only explanation that Canada has provided is a decline in timber quality caused by MPB, presumably invoking one of the exceptions in the Anti-circumvention provision. But Canada has failed to meet its burden of proving that the circumstances of this case satisfy any of the exceptions in the provision.

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[1] SLA, art. XVII ¶¶ 1-2.

25. In its Statement of Case, the United States established that Canada's own data show that the increase in Grade 4 was only minimally attributable to the MPB. In response, Canada accuses the United States as having merely an "inferential case" based upon circumstantial evidence.[2]

26. The evidence supporting the claim is indeed circumstantial, as it must be where direct evidence of misgrading is unavailable to the United States. The United States relies on BC's own studies regarding lumber recovery from MPB timber, as well as on the actual amount of merchantable lumber that BC lumber mills produced to conclude that BC underpriced timber that actually satisfied the 50/50 rule. The United States simply does not have access to other types of evidence in this case.

27. International tribunals have consistently and historically accepted circumstantial evidence and inferences, particularly where direct evidence is not the sort that would be available to the claimant.[3] For example, the International Court of Justice has held that inferences of fact and circumstantial evidence were acceptable when the control of one country over evidence would have made it impossible for the claimant to obtain direct proof.[4] Other tribunals have held the same.[5] Although the absence of

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[2] Stmt. Def. ¶¶ 128-98.

[3] See CA-9 at 322 (BIN CHENG, GENERAL PRINCIPLES OF LAW AS APPLIED BY INTERNATIONAL COURTS AND TRIBUNALS 322 (1953) ("In cases where direct evidence of a fact it not available, it is a general principle of law that proof may be administered by means of circumstantial evidence."); CA-10 at 259 (MOJTABA KAZAZI, BURDEN OF PROOF AND RELATED ISSUES: A STUDY ON EVIDENCE BEFORE INTERNATIONAL TRIBUNALS 259 (1996) ("Similar to municipal fora, it is the common practice of international tribunals to rely, in each particular case, on reasonable inferences drawn from facts. A common form of inference is draw on the basis of the circumstances and usually is referred to as circumstantial evidence.").

[4] CA-11, 1949 ICJ Reports 4, 18 (Apr. 9), *The Corfu Channel Case* (Merits) (UK v. Albania) (emphasis in original).

obtainable direct evidence does not relieve the claimant of meeting its burden of proof,[6] an exclusive reliance on circumstantial evidence is appropriate when "direct evidence is out of reach,"[7] and when the inference is consistent with the facts and not contradicted by the evidence.[8]

28. Here, Canada contends that the United States has presented only inferences and has not demonstrated that even one log was misgraded.[9] But it would be impossible for the United States to prove that any particular log has been misgraded because BC does not make publicly available, and has not disclosed in this arbitration, data that would allow a fact-finder to directly correlate how a log was graded with its ultimate lumber output. Even though this is the precise information that would be required to demonstrate directly and conclusively that the 50/50 rule has been applied accurately, Canada has never provided the information. Instead, as Canada itself explained when it declined to provide disclosure, only the private mills retain this data. When a government denies access to direct evidence and a claimant has no means to access that evidence, circumstantial evidence is more than sufficient. Canada cannot, on the one hand, withhold direct evidence, and other hand, complain that the claims fail for a lack of that direct evidence. If the United States were unable to rely on circumstantial

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[5] *See, e.g.*, CA-12, *Velasquez Rodriguez Case*, Judgment of July 29, 1988, Inter-Am.Ct.H.R. (Ser. C) No. 4 (1988), at ¶ 124.

[6] CA-14, *Tokios Tokeles v. Ukraine*, ICSID Case No. ARB/02/18 (26 July 2007), at ¶ 14.

[7] CA-15, *Alpha Projektholding GMBH v. Ukraine*, ICSID Case No. ARB/07/16 (Award of Nov. 8, 2010), at ¶ 373.

[8] CA-12, ¶ 130.

[9] Stmt. Def. ¶ 152.

evidence, Canada would effectively have a blueprint for circumvention simply by failing to collect data on the operation of its pricing systems.

29. In any event, circumstantial evidence establishes the claims presented by the United States, and Canada has failed to rebut this evidence.

I. Canada's Own Data Support The U.S. Position

A. Canada Misconstrued Its Data

30. Canada asserts that "it was the physical characteristics of the logs being measured by the scalers, not the criteria for measuring, that changed during" the period when the share of the BC Interior harvest classified as Grade 4 increased dramatically.[10] Indeed, Canada claims that the data support its theory "that the increase in the percentage of Grade 4 logs in the pine harvest corresponded with increases in objective measures indicative of deterioration of the pine available for harvest and being harvested."[11] However, the data do not support Canada's assertions.

31. Pursuant to the 50/50 rule, logs may be classified as Grade 4 for one of only two reasons — either because a majority of the log is not suitable for producing lumber, or because a majority of the lumber that can be produced from the log will not be merchantable. There is no disagreement between the parties that MPB timber may be affected in additional ways that diminish timber value. For example, MPB timber may tend to produce less high-value "appearance-grade" lumber or large boards. Under BC's grandfathered timber pricing system, however, these factors are not enough to make MPB timber Grade 4. Instead, the MPS accounts for the effects of the MPB by reducing the

[10] Stmt. Def. ¶ 150.

[11] Stmt. Def. ¶ 151.

price of Grade 1 and Grade 2 logs on MPB-affected stands rather than by downgrading logs to Grade 4.

32. As the United States expert economist Dr. Jonathan Neuberger explains, this sawlog price reduction occurs in two ways. First, a generous allowance in pricing index for MPB-attacked stands reduces the relative price of Grade 1 and Grade 2 logs on those stands.[12] This is called the "Lumber Recovery Factor" or "LRF" calculation. The LRF calculation takes into account the degree of MPB attack in any given stand of timber and adjusts the price downward depending on the severity of attack.[13] In other words, even within Grades 1 and 2, and even for grey stage timber (the longest-dead), the LRF adjusts the price of timber without dropping the grade to Grade 4. The Statement of Defence is virtually silent about the intended role of the LRF. Second, lower bids on MPB-attacked stands sold at auction will eventually translate into lower sawlog prices for similar stands sold under the MPS system.[14]

33. By contrast, for Canada to demonstrate that the MPB epidemic actually caused the large increase in Grade 4 that occurred between 2007 and 2009, it would have to have shown that during this period there were equally large increases in the share of logs unusable for making lumber, increases in the share of logs producing mostly nonmerchantable lumber, or both. But Canada completely failed to show either. Indeed, the objective data that Canada presented for the two elements of the 50/50 rule show that the actual increase in Grade 4 was largely unrelated to any increase in unusable timber or nonmerchantable lumber.

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[12] C-103 ¶ 18.

[13] C-2 ¶ 27.

[14] C-103 ¶ 19.

34. The share of logs useable to produce lumber did not decrease significantly between 2006 and 2009. The percentage of logs harvested in the BC Interior that were processed in sawmills declined from 84.5 percent in 2006 and 84.0 percent in 2007 to 82.4 percent in 2008 and 80.3 percent in 2009, a decrease of 4.2 percentage points over this time period.[15] Further, the amount of lumber produced in BC Interior sawmills per unit of log input (that is, the LRF) did not change significantly during this period. Although Canada asserted that the relationship between LRF and value is not linear, the absence of any significant change in the LRF over the period suggests that the percentage of logs entering sawmills that were useable to make lumber also did not significantly change over the period.

35. Accordingly, the percentage of logs harvested in the BC Interior that were *in fact used* to make lumber declined by no more than four to five percentage points from 2006 to 2009, and remained over 80 percent even at the end of that period. To be clear, these logs were "useable" for producing lumber. Yet the share of those logs assigned to Grade 4 increased from approximately 16 percent in 2006 to approximately 66 percent in 2009.[16] Because Grade 4 logs by definition must be mostly unusable for lumber, an increase in Grade 4 logs of this magnitude cannot be justified by the much smaller increase in the share of logs not "useable" for making lumber.

36. Similarly, the share of logs not suitable to produce merchantable lumber did not significantly increase. According to Canada, the share of lumber produced in the BC Interior that was "nonmerchantable" within the meaning of the 50/50 rule increased

[15] Stmt. Def. ¶ 192, Figure 30. The data on logs entering sawmills in 2009 had not yet been published at the time the United States filed the Statement of Case. This recently available data has been incorporated into Dr. Neuberger's rebuttal statement.

[16] C-2 ¶¶ 29, 32.

from 16 percent in 2006 to 19.5 percent in 2009, an increase of about 3.5 percentage points.[17] These data, which Canada attributes to the BC Ministry of Forests, are not publicly available, and were not available to Dr. Neuberger or the United States at the time of the Statement of Case. Nonetheless, they are consistent with the analysis that Dr. Neuberger made of publicly-available proxies for this data, in that the share of nonmerchantable lumber produced in the BC Interior did not increase significantly during the period that the Grade 4 share increased very significantly.

37. Moreover, that *some* of the lumber produced from a log is "nonmerchantable" does not itself imply that the log qualifies as Grade 4. Instead, a *majority* of the lumber produced from a log must be "nonmerchantable" to justify classifying the log as Grade 4. An increase in the percentage of nonmerchantable lumber of 3.5 percentage points – with the total such percentage remaining below 20 percent as late as 2009 – cannot imply a large increase in the share of logs producing more than 50 percent nonmerchantable lumber over that period. Thus, the data do not support Canada's claim that a substantial increase in the share of logs producing nonmerchantable lumber justified the actual substantial increase in Grade 4.

38. To summarize: in 2006, when 84.5 percent of the BC Interior harvest was used in lumber production and 16.0 percent of the lumber was nonmerchantable, the share of that harvest that failed the 50/50 rule was 16 percent. But in 2009, when fully 80.3 percent of the harvest was still being used in lumber production (with roughly equivalent efficiency) and only 19.5 percent of the lumber was nonmerchantable, the share of the harvest failing the 50/50 rule was 66 percent. The numbers simply do not

[17] Stmt. Def. ¶ 176, Figure 28.

add up. These data might explain a very small increase in the share of the harvest being properly graded as Grade 4, but they cannot explain the very large increase that actually occurred.

39. Further, even assuming that a significant quantity of logs were very close to the dividing line between Grade 2 and Grade 4 – such that even small changes in the objective data regarding usability for producing lumber and merchantability of lumber output could result in sudden, relatively large increases in the Grade 4 share – there should be a strong correlation between the timing of the peak MPB attack in a given region and the timing of such a "tipping point" in the Grade 4 share in that region. But, as Dr. Neuberger has already explained, no such correlation appears in the data. Rather, the share of Grade 4 increased sharply at roughly the same time in all areas of the BC Interior, regardless of whether an area was attacked relatively early or late in the epidemic.[18] This is inconsistent with Canada's claim that a slow, steady change in objective data relevant to the 50/50 rule eventually produced a sharp, sudden increase in legitimate Grade 4 shares, and is much more consistent with region-wide changes in grading policy.

40. Finally, Canada's argument that the percentage of Grade 4 in the harvest is closely correlated to the share of MPB timber in the harvest is erroneous because it confuses correlation with causation.[19] Such a correlation would be expected if the cause of the increase in Grade 4 were, as Canada contends, the natural effect of the MPB on BC Interior timber quality. But exactly the same correlation would be expected if the increase in Grade 4 were caused by BC policy changes with respect to the grading of

[18] C-2 ¶¶ 36-38; C-103 ¶ ¶ 41-49.

[19] Stmt. Def. ¶¶ 170-171.

MPB timber, as the United States has demonstrated. Indeed, the individual policy changes identified by the United States (which may or may not include all of the relevant policy changes implemented by the BC government) relate specifically to the promotion of developing "local knowledge" regarding the effect of the MPB on log processing, to scaling guidelines aimed exclusively at MPB logs, and to the kiln warming of MPB logs before grading.

41. For Canada to prevail, the objective data about the quality factors relevant to the 50/50 rule must support its contention that the observed Grade 4 pattern is consistent with the proper application of the 50/50 rule. But these data do not support Canada's claim, nor does Canada explain how these data can be consistent with its defense.

B. Canada's New Claim That BC Could Not Predict The Volume Of Longer-Dead MPB Timber Failed To Show Correct Grading

42. Canada's response to the United States' concerns regarding misgrading has shifted over time. In its response to the request for arbitration, Canada attributed the increase in Grade 4 to the "explosive growth" of the MPB "epidemic."[20] The Statement of Case responded to that simplistic excuse with citations to a small portion of the voluminous evidence showing that BC had predicted the growth in the outbreak with a high degree of accuracy and that the outbreak had peaked before the parties had entered into the SLA in October 2006.[21] There is no evidence of an unforeseen MPB explosion that followed the SLA.

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[20] Canada Resp. ¶ 3.

[21] *See* Stmt. Case ¶ 73 & nn.94-96 (citing C-31, CAN-015200-01 at CAN-015200; C-32, CAN-037178-228 at CAN-037205; C-23, CAN-001437-60 at CAN-001441; C-34, CAN-047191-213 at CAN-047193).

43. In its Statement of Defence, Canada backpedaled, conceding that the MPB outbreak had peaked in 2004 and 2005 and, by implication, that there was no explosion.[22] Canada contends instead that, although BC may have accurately predicted the scope and size of the outbreak, BC did not anticipate that the MPB timber would deteriorate over time.[23] Canada now attributes the 2007 surge in Grade 4 to an allegedly unanticipated increase in trees that had been dead two or more years.[24] According to Canada, BC would have had to have been "omniscient"[25] in 2006 to predict that lodgepole pine killed by the MPB would deteriorate, and the demonstration in the Statement of Case that BC anticipated the attack and its effects "credits B.C. with too much prescience."[26]

44. Canada misses the point. It makes no difference what BC knew and when BC knew it. BC did not need to appreciate the "[

] " as Canada and its industry witnesses intimate, to understand that trees deteriorate due to MPB.[27] BC may not have had perfect information about the MPB outbreak, but it certainly instituted reforms in April 2006 to address the MPB outbreak and it foresaw the problem of timber deterioration, for which the reforms readily accounted. There is no reason why – and Canada has offered none – the pricing system

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[22] *See* Stmt. Def. ¶¶ 137, 159.

[23] *See, e.g.*, Stmt. Def. ¶ 103 ("B.C. officials did not understand and anticipate all of the challenges the MPB outbreak presented by the time the April 2006 log grades were adopted."); *id.* ¶ 217 ([

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[24] *See* Stmt. Def. ¶ 106.

[25] *See* Stmt. Def. ¶ 103.

[26] *See* Stmt. Def. ¶ 217.

[27] *See* Stmt. Def. ¶ 105; *see also* R-5 ¶ 12 (stating that the MPB's "[

]"); R-2 ¶ 26 (" [

] ").

grandfathered by the SLA could not have properly accounted for that increase in the volume of dead trees without a corresponding rise in Grade 4. Simply saying there are more dead and dry trees that have been dead and dry for longer is no explanation at all, particularly where the 2006 reforms addressed that very problem. The question in this proceeding is whether timber that was suitable for making lumber was misgraded and underpriced as Grade 4. BC is responsible for applying its pricing system regardless of what it might have expected in 2006, unless it can meet is burden to justify a departure from the grandfathered system, which it has not done.

45. Even assuming that BC's expectations were relevant, Canada's account of what it expected and when it expected it is inconsistent with the undisputed chronology of events and with Canada's own data. For example, Canada relies on uncertainties about the shelf life of MPB timber to support its claim that BC could not have anticipated the increase in deteriorated timber in 2006, just after the signing of the SLA.[28] But uncertainties in that regard cut against Canada's position. To the extent uncertainties about shelf life existed in 2006, they cannot explain the increase in Grade 4 timber because they had led to *underestimations* of how long timber would remain economically viable. James Snetsinger, the Chief Forester of BC and an Assistant Deputy Minister in the Ministry of Forests, Lands, and Natural Resource Operations, acknowledges in his expert report that there was a common (and mistaken) belief that trees remained economical for only two years after death.[29] In a 2009 presentation, Pat Bell, the Minister of Forests and Range, explained that initial estimates of shelf life were too

[28] *See* Stmt. Def. ¶ 105 (citing R-7 ¶¶ 34, 35).

[29] *See* R-7 ¶ 34.

conservative and that shelf life was longer than four to eight years.[30] And in 2010, Minister Bell said that "{i}n the early years, we thought that the wood might last for two or three years after it was killed. . . . What we're finding now is potentially we'll get 10 or more years. In fact, I've seen wood that's milled that's 20 years dead."[31]

46. Thus, BC and private industry thought in 2006 that trees attacked by MPB would deteriorate and lose their value *faster* than we now know they do in reality. If anything, therefore, BC and Interior sawmills should have been over-prepared for the purported 2007 explosion in timber that had been dead more than two years. Because Canada's theory that there was a contemporaneous misunderstanding of shelf-life is unsupportable, it actively undermines Canada's *post-hoc* explanation for the later increases in Grade 4 as the result of something other than misgrading.

47. Similarly, Canada pegs two years after death as the point at which there is a sharp decrease in value of a tree and insists that the 2007 surge in Grade 4 resulted from an increase in trees dead two years or more that had begun in 2006.[32] The two-years-since-death number appears to be reverse-engineered to correspond to when Canada concedes the peak of the outbreak occurred rather than to hard facts about timber quality. All reliable evidence shows that declines in lumber recovery and value recovery remain relatively stable well after two years of mortality. For instance, notwithstanding Canada's assiduous efforts to discredit BC's own commissioned studies, the Mill Studies (discussed below) show that trees that had been dead for five or more years satisfy the

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[30] C-44, CAN-015327-44 at CAN-015329.

[31] C-108, CBC News, *B.C. Forests outlook not gloomy: minister*, at 2 (Mar.18, 2010), http://www.cbc.ca/news/canada/british-columbia/story/2010/03/18/bc-lumber-industry-outlook-bell.html.

[32] *See* Stmt. Def. ¶¶ 106, 156, 159.

50/50 rule at a very high rate.[33] The research of Canada's expert witness, Katherine Lewis, confirms this as well.[34] Canada provides no credible evidence to the contrary.

48. Rather, Canada complains that it could not have known in advance the level and volume of deteriorated MPB timber after 2007. Again, what Canada knew or could have known is beside the point, but even assuming that it was relevant, all the evidence contradicts Canada's explanation. Canada's sudden lack of confidence about BC's ability to make short-term predictions about the volume and deterioration of dead timber in its own forests does not refute the demonstration in the Statement of Case that BC enacted the 2006 reforms to grade the anticipated volume and deterioration of MPB timber in a manner that would capture the MPB timber's value and thus allow BC to command a stumpage fee that more closely reflected market conditions. That is why BC enacted the reforms. Canada's claim that BC was incapable of drawing a simple conclusion from the large amounts of accurate, technical data that it had painstakingly developed is dubious on its face.

49. More importantly, testimony from Canada's own witness and contemporaneous evidence contradict Canada's suggestion that BC lacked confidence to predict the short-term volume of dead timber that would be in its own forests after the SLA was signed. Mr. Snetsinger contends that BC knew that MPB timber "would deteriorate in quality in the years after death."[35] He also recalls that, in 2006, "the view

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[33] *See generally* C-39, CAN-029325-61; C-40, CAN-029247-66; C-41, CAN-029267-91; C-5, CAN-007000-31; see also C-105 ¶¶ 4, 52 (concluding based on a review of the scientific literature that MPB lodgepole pine in BC "generally remains suitable for the manufacture of dimension lumber for seven or more years.").

[34] R-10 (2011 Lewis and Thompson article appended to report, at 140).

[35] R-7 ¶ 40.

of many in the industry was that a dead pine tree would be economical to harvest for processing in a sawmill for only two years after death . . . ."[36] First and foremost, this statement contradicts what BC actually knows about shelf life, as stated by Minister Bell (discussed above). But on an even more basic level, Mr. Snetsinger's statement confirms that BC's Chief Forester does not share Canada's view that BC could not have anticipated in 2006 the subsequent increase in lodgepole pine that had been dead two or more years.

50. Mr. Snetsinger was not alone in his confidence to predict the short-term volume of MPB timber and its effects. For instance, BC's 2006 Mountain Pine Beetle Action Plan, a contemporaneous document that Canada produced in disclosure, identified BC's key objectives in addressing the MPB outbreak, and it listed recovering the greatest value from dead timber before it burned or decayed as one of them.[37] And in April 2005, the Canadian Forest Service and the BC Forest Service published a report on the provincial-level projection of the MPB outbreak.[38] That report reflects both Canada's and BC's contemporaneous understanding that the MPB timber deteriorates over time and their ability to predict the rate of deterioration even while acknowledging that they could not "'know' the shelf-life" of MPB timber with certainty.[39] These documents, and numerous others like them, establish that Canada and BC knew in 2006 that MPB timber deteriorated over time and that BC had made recovery of the value of those logs a top

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[36] R-7 ¶ 34.

[37] C-34, CAN-047191-213 at CAN-047203; *see also* C-23, CAN-037128-49 at CAN-037138 (listing as an "Objective" to "Recover the greatest value from dead timber before it burns or decays").

[38] C-32, CAN-037178-228.

[39] C-32, CAN-037178-228 at CAN-037197-98.

priority. Given that priority, Canada's argument that BC could not have anticipated the increase in MPB timber that occurred shortly after the SLA was signed is implausible at best.

51. The fact is, BC not only devoted significant resources to understanding the MPB outbreak, which started in the mid-1990s, but it also had the benefit of research from the North-American MPB outbreaks of the 20th century.[40] That does not mean that BC was omniscient, but the United States does not contend that BC was, or had to be, to avoid breaching the SLA. To be sure, BC had a lot more knowledge in 2006 than Canada attributes to it. Indeed, all Canada has to support its position is the *post hoc*, unsubstantiated, and self-serving testimony of interested witnesses.[41] For instance, Scaling Policy Forester James Crover states that the Ministry "did not have adequate information to predict the future condition of the logs that would be harvested in subsequent years."[42] He also states that when BC developed the new log grading system in 2006, "we did not consider the condition of the logs that we might be confronted with in the future."[43] The documents cited above show otherwise, and Mr. Crover failed to cite any contemporaneous evidence to support his current assertions.

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[40] *See, e.g.*, C-109, CAN-038739-70 at CAN-38755, CAN-38766-67 (citing numerous academic articles on the traits of MPB timber and its effects on lumber manufacturing); *see also* C-105 ¶¶ 11-22 (providing literature review of MPB timber studies from the 1970s and 1980s).

[41] Stmt. Def. ¶ 106 (citing R-3 ¶ 68); *see also* R-5 ¶ 12; R-2 ¶ 26.

[42] R-3 ¶ 68.

[43] R-3 ¶ 68.

C. Canada's *Post-Hoc* Discrediting Of The Mill Studies Failed To Disprove Misgrading

52. The four Mill Studies that BC commissioned in 2007 and 2008 consistently establish that grey-stage timber (timber dead for five or more years) can produce and *was producing* the same quantities of merchantable lumber in 2007 and 2008 as in 2006.[44]

53. The Mill Studies were released in 2007, 2008, and 2009, at the very same time when BC was selling increasing amounts of MPB timber as Grade 4. These studies establish that BC had concrete data demonstrating that even grey-stage MPB timber was capable of producing merchantable lumber and *should* be graded at Grades 1 or 2 and sold at sawlog prices. As noted above, only the sawmills – and not the BC government – tracked the data to show what lumber actually was produced from different log grades. Accordingly, when the Mill Studies were completed at the BC government's behest, they constituted BC's best evidence that MPB timber in fact retained value as sawlogs for years. If BC had wanted to change the scaling conventions to reflect this reality, it should have revised them to assign more timber to the sawlog grades, and not to divert more MPB timber to Grade 4.

54. Now, instead of grappling with the results and the significance of these government-funded studies that were obviously undertaken to provide useful information, Canada completely disavows them, betraying both a lack of faith in the BC government organizations that prepared them, and a purely *post-hoc,* self-contradictory explanation of conclusions on which BC, until now, had relied. Tellingly, Canada does not offer new or

[44] Stmt. Case ¶¶ 78-94.

different studies that support its position; rather, it proffers a three-point attack on the reliability of its own Mill Studies.

55. First, Canada contends that the studies were intended to be mere [

]45 It next contends that because there is no direct relationship between timber grade and lumber recovery, the high lumber recovery and value recovery numbers for grey-stage timber documented in the studies are, in essence, irrelevant.[46] Finally, Canada contends that the United States "mischaracterize{s}" the losses in the documented studies as small.[47]

56. The Mill Studies cannot be so easily dismissed. As an initial matter, the Tribunal should be skeptical of Canada's offering of the author of at least some of the studies as a witness to largely disavow his own conclusions. More importantly, it is inconceivable that BC would have funded and undertaken these studies to provide information that could not be used for any meaningful purpose. Yet this is exactly what Canada contends.

57. Even the BC witnesses who now discredit the Mill Studies cannot escape the inconsistency between the value loss documented in the studies and the sharp rise in Grade 4. Taken together, the studies tested over 2,400 cubic meters of grey-stage logs

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[45] Stmt. Def. ¶ 195 (citing R-12 ¶¶ 244-61).

[46] Stmt. Def. ¶ 196.

[47] Stmt. Def. ¶¶ 197-98.

that had been dead for five or more years.[48] The results of the tests show that grey-stage timber that has been dead for five or more years can be consistently converted into lumber at more than 90 percent of the rate of green timber and that the lumber produced from grey-stage timber is merchantable at a rate of more than 75 percent of lumber produced from green timber.[49] At these rates, even if Canada's claim that the 2007 explosion in Grade 4 corresponded with an unanticipated and unaccounted-for increase in trees dead more than two years were true,[50] the increase could not account for the sharp increase in Grade 4, from roughly 17 percent in 2006, to 28 percent in 2007, to an average of about 55 percent from 2008 to 2010.[51]

58. Significantly, Canada's own expert agrees that most MPB-killed timber remains check-free until many years after attack. The data provided by Dr. Katherine Lewis concerning the incidence of checks over time show that, "{w}ithin the first two years post-mortality, the number of trees without checks (at 1.3m) declined to around 60% and remained steady for several years."[52] Only after seven years after death "did the percentage of trees showing no evidence of checking at breast height fall significantly, to 20 percent.[53] And the U.S. expert, Dr. Christopher Fettig, explains in his report, Dr. Lewis made no attempt to reconcile these statements with her previous work finding

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[48] *See* C-39, CAN-029325-61 at CAN-029337 (499.8 m^3); C-40, CAN-029247-66 at CAN-029260 (518.7 m^3); C-41, CAN-029267-91 at CAN-29282 (721 m^3); C-5 CAN-007000-31 at CAN-007011 (671 m^3).

[49] *See, e.g.*, C-5, CAN-007000-31 at CAN-000725 (compiling lumber recovery and value recovery results for the four Mill Studies).

[50] *See, e.g.*, Stmt. Def. ¶¶ 106, 156, 159.

[51] *See* C-2, Ex. 3.

[52] R-10 ¶ 57.

[53] R-10 ¶ 57.

that 70 percent of trees that had been dead for six years contained no checks in the portion of the trees where checking is worst and affects lumber recovery the most.[54] That finding is inconsistent with Canada's theory that there was a rapid run-up in Grade 4 because the average time since death of dead pine in harvested areas approached five years (the figure reported by Professor Kalt). This is particularly true given that the increase in time since death pertained only to roughly half of the pine in harvested areas (with the other half of the pine non-attacked).

1. The Contemporaneous Evidence Disproves Canada's New *Post-Hoc* Claim That The Mill Studies Are Mere "Snap Shots"

59. Canada first attempts to discredit the Mill Studies by having Dr. John Taylor, the "principal author" of three of the four studies, opine that [

].[55] Dr. Taylor and his colleague, Dr. Darrel Wong, now contend that [

].[56] Then, a mere two paragraphs later, Drs. Taylor and Wong state that the [

][57] Canada

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[54] C-104 ¶¶ 7, 19; C-103 ¶ 37-39 (Exhibit 3-4 to Dr. Neuberger's report summarizes Dr. Lewis's and other studies demonstrating that, beyond the first year since death, the percentage of trees without checks was between about 50 and 70 percent through year six); *see also* C-105 ¶ 45 (discussing study by Lewis and Thompson (2008, 2011) indicating that "{t}hrough year 6 following death, only a small percentage of trees had checking at {diameter at breast height}").

[55] *See* Stmt. Def. ¶ 195; *see also* R-12 ¶¶ 244-62.

[56] R-12 ¶ 244.

[57] R-12 ¶ 246.

does not even attempt to provide a viable explanation for the purpose of the studies (other than to evaluate specific mills and then never consider the information again), or explain why the BC government, through Forestry Innovation Investment ("FII"), expended the resources to commission them or publish them. Canada insists instead that the Canadian public funded the studies intending them to have no applicability whatsoever, except for a brief moment and time and then only for the specific mills at issue. This defies the very notion of a scientific study based upon a sample. The purpose of conducting a study based upon a sample is precisely to extrapolate the conclusions from the sample to broader categories. Canada offers no plausible basis to conclude that BC wasted public monies on costly studies that, by design, had no purpose or use that could benefit the provincial government or the industry. Neither Dr. Taylor nor Canada explains why the Tribunal should credit his current testimony over his previous work.

60. Apparently not satisfied with Dr. Taylor's sudden disavowal of his own work, Canada has hired another expert, Dr. Lewis, to speculate that the grey-stage timber, the focus of the studies, may not have been dead for five or more years after all.[58] As a matter of substance, Dr. Fettig shows Dr. Lewis's speculation to be based upon faulty reasoning.[59] But even beyond that, Dr. Lewis's criticism goes beyond limiting the Mill Studies' usefulness: it directly attacks their veracity. Canada has rejected contemporaneous documentary evidence, created during the events at issue in this arbitration, in favor of the testimony of party witnesses — testimony that was created for purposes of Canada's defense here. This is, of course, backwards. Documentary evidence, written "contemporaneously or shortly after the events in question . . . and for

[58] *See* Stmt. Def. ¶ 195 (citing R-10 ¶ 93).

[59] C-104 ¶ 18.

purposes other than the presentation of a claim or the support of a contention in a suit, is ordinarily of higher probative value."[60] More surprising than even the reliance upon *post-hoc* testimony over conflicting contemporaneous documentary evidence, is the direct attack on one of the Canada's own witnesses — Canada questions Dr. Taylor's competence as the author of three of the four studies, but has provided no reason why the Tribunal should credit his testimony now, over his conclusions then.

61. Canada's *post-hoc* attacks notwithstanding, the Mill Studies speak for themselves. The three studies conducted by FII expressly state their purpose: "To determine the difference in lumber recovery and lumber value from processing grey-stage (5+ years) Mountain Pine Beetle attacked lodgepole pine when compared to processing green S[pruce]-P[ine]-F[ir] fibre."[61] And although they have boilerplate disclaimers about their results applying to the specific sample and mills used, they also state that the "results *can certainly be used as an indication* of the losses to be expected when processing older MPB attacked lodgepole pine."[62] This was, of course, the very purpose of the study — to assist BC in determining what losses should be expected and to make decisions based on those expectations.

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[60] *See* CA-9 at 318-19.

[61] *See* C-40, CAN-029247-66 at CAN-029253; C-41, CAN-029267-91, at CAN-29274 (substantially same); C-5 CAN-00700-31 at CAN-007006 (substantially same); *see also* C-39, CAN-029325-61 at CAN-029332 ("In order to advance knowledge of the impacts of changing fibre characteristics on the manufacturing processes, as measured by relative lumber recovery and relative product values obtained from green Spruce-Pine-Fir and grey stage 5+ year dead MPB attacked trees, FII has commenced a program of mill manufacturing trials in high speed dimension sawmills located around the Interior of B.C.").

[62] C-41, CAN-029267-91 at CAN-029270 (emphasis added); C-40, CAN-029247-66 at CAN-029250 (substantially same); C-5, CAN-007000-31 at CAN-007002 (same).

62. Indeed, in August 2008, FPInnovations, the entity that performed the last three Mill Studies for FII, issued a press release touting the first three Mill Studies – or "[r]ecovery trials" – as "'real world' benchmarks" that could help BC Interior sawmills "predict what impact processing higher volumes of grey stage MPB logs could have on individual operations."[63] In its 2007-2008 Annual Report, FPInnovations again touted the studies in a statement that directly contradicts Canada's position now: "Given the configurations of the sawmills, *companies can now more accurately predict how much volume and value loss they can expect when processing grey stage MPB logs.*"[64] Contemporaneous evidence thus shows that FPInnovations understood the studies to have predictive value. Drs. Wong and Taylor, who work for FPInnovations and whose expert report appears on FPInnovations stationery, do not attempt to reconcile their current position with FPInnovations' past statements.

63. Other contemporaneous evidence confirms that the Mill Studies were used for their predictions. In 2008, FII's director of fibre opportunities and manufacturing described the Mill Studies as something that "[h]ighlights" the projects that FII undertook with the $100 million that it received from the Canadian federal government.[65] He stated that the Mill Studies "provided statistically sound data to assist industry and government in the assessment of economic shelf-life for MPB-attacked logs."[66] Again, Canada and Drs. Wong and Taylor do not attempt to reconcile their current view of the Mill Studies' lack of utility with what BC and its agents were saying about the studies in 2008. Rather

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[63] C-110, CAN-030083-84 at CAN-030083.

[64] C-111, FPInnovations, *Annual Report 2007-2008*, at 13 (Oct. 2008) (emphasis added), http://www.fpinnovations.ca/pdfs/ar_english_final.pdf.

[65] C-112, CAN-050775-79 at CAN-050777.

[66] *Id.*

they ask the Tribunal to favor their revisionist position over the contemporaneous evidence.

64. The Canadian softwood lumber industry has also used the Mill Studies for their predictive value. In 2010, a consulting firm used the Mill Studies' data and results to advise its clients about lumber recovery and value recovery from MPB-attacked timber.[67] Combining the Mill Studies' data and results with its own research, the consulting firm developed models (or "proformas") to predict lumber recovery and value recovery for lodgepole pine at various stages of attack. As the model (and chart below) show, the lumber recovery factor in the first five years since death drops a minimal amount at "average" sawmills, and even grey-stage logs that have been dead for 12 years can routinely produce enough lumber to satisfy the first prong of the 50/50 rule.[68]

Lumber Recovery Factors at "Average" Sawmills

Green – No Attack	Dead Green 1 Year	Red Dead 2-3 Years	Grey Dead 4-5 Years	Grey Dead 8 Years	Grey Dead 12 Years
65%	65%	64%	63%	59%	56%

65. In keeping with the Mill Studies' conclusions, the model also demonstrates that value recovery remains capable of satisfying the second prong of the 50/50 rule well into the grey stage.[69]

[67] Stmt. Case ¶ 90 (citing C-102, at 32, 34).

[68] C-102, at 32.

[69] C-102, at 34; *see also* C-105 ¶ 52 ("My assessment of the scientific literature is that MPB-killed lodgepole pine generally remains suitable for the manufacture of dimension lumber for seven or more years").

Lumber Grade Category

Lumber Grade	Green – No Attack	Dead Green 1 Year	Red Dead 2-3 Years	Grey Dead 4 Years	Grey Dead 8 Years	Grey Dead 12 Years
J-Grade	20%	20%	15%	11%	5%	0%
Home Centre/MSR	42%	42%	37%	27%	17%	10%
Total Premium	62%	62%	52%	38%	22%	10%
#2 & Better	25%	25%	31%	42%	51%	57%
Subtotal	87%	87%	83%	80%	73%	67%
Utility	9%	9%	12%	14%	19%	23%
Economy	4%	4%	5%	6%	8%	10%
Total	100%	100%	100%	100%	100%	100%

66. Just this year, an American lumber analysis firm produced a report designed to "help strategic planners, senior executives, financial executives and analysts, government policymakers and other stakeholders in the North American forest products sector gain a solid understanding" of the MPB outbreak.[70] That report relies on the Mill Studies as a cornerstone of its analysis of lumber recovery and value output for MPB-killed timber.[71] The report notes one limitation of the Mill Studies—their predictive value for MPB-killed timber older than eight years is limited.[72] The report mentions none of Canada's newfound concerns with the Mill Studies.

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[70] C-113, Beetlemania: North American Wood and Timber Markets in the Wake of the Mountain Pine Beetle Infestation, Spring 2011, http://www.getfea.com/component/content/article/241 (last visited Dec. 14, 2011).

[71] *See* C-114, "Beetlemania? North American Wood and Timber Markets in the Wake of the Mountain Pine Beetle Infestation," Forest Economic Advisors, LLC Spring 2011 at 19-23.

[72] *See* C-114 at 19.

2. The Mill Studies Provide Benchmarks For Predicting Lumber Recovery And Value Recovery

67. The Mill Studies' results indicate that in 2007 and 2008 – the very same time when Canada contends there was an explosion of nonmerchantable timber – BC Interior sawmills were recovering significant amounts of merchantable lumber from MPB timber they purchased from BC for C$0.25 a cubic meter. That the United States relies on these studies is just as BC agencies urged in 2008 — the Mill Studies are evidence of actual grey-stage logs that satisfied the 50/50 rule, as would have been expected in 2006. The studies also provide benchmarks against which to predict what lumber recovery and value recovery would be. In addition, the results provide a metric against which to measure the Canada's continual, unsupported innuendo that "MPB-killed timber depreciates rapidly in the few years after death . . . ."[73] This is simply not the case.

68. The United States did *not*, as Canada contends, suggest that the Mill Studies show that MPB attack never affects the quality of timber. Canada states that the "United States insists that that the only figure that matters in determining whether logs were correctly graded is the decline in LRF, or lumber volume recovery, and that declines in lumber value do not matter."[74] Further, Canada complains that the United States characterizes the decline in relative lumber volume and value recovery between green and grey samples in the Mill Studies as "a 'small reduction.'"[75] To the contrary, the United States said that the Mill Studies show that lumber recovery *and* value recovery *may* decrease in grey-stage timber, but not nearly enough to explain the massive increase

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[73] *See* Stmt. Def. ¶ 99.

[74] Stmt. Def. ¶ 198 (citing Stmt. Case ¶ 92).

[75] Stmt. Def. ¶ 197 (quoting Stmt. Case ¶ 91).

in the amount of timber designated Grade 4 from 2007 onward.[76] Regardless of how one characterizes the reduction in lumber volume and value recovery, the relevant question for purposes of identifying misgrading is whether the decreases were large enough to explain the massive increase in Grade 4 that started in 2007. The Mill Studies present compelling and unrebutted evidence that they were not.

69. A simple juxtaposition of contemporaneous statements with Canada's post-hoc statements in its brief reveals the extent to which Canada wishes to distance itself from its own work. What BC called "real world benchmarks" in 2008,[77] Canada now calls "snap shots."[78] What BC called "statistically sound data to assist industry and government in the assessment of economic shelf-life for MPB-attacked logs,"[79] Canada now calls results that are "difficult to generalize . . . to the Interior."[80] And what BC called a good configuration of mills upon which to predict volume and value loss,[81] Canada now calls "not representative."[82] The Tribunal should view the Mill Studies for what they are: evidence that BC Interior sawmills are capable of extracting merchantable lumber from MPB timber at a rate that overwhelmingly satisfies the 50/50 rule.

70. Given the weakness of Canada's first line of attack on the Mill Studies, it is unsurprising that Canada falls back to its global argument that lumber recovery does

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[76] *See* Stmt. Case ¶¶ 91-94.

[77] C-110, CAN-030083-84 at CAN-030083.

[78] Stmt. Def. ¶ 195 (citing R-9 ¶ 45).

[79] C-112, CAN-050775-79 at CAN-050777.

[80] Stmt. Def. ¶ 195.

[81] C-111, FPInnovations, *Annual Report 2007-2008*, at 13 (Oct. 2008), http://www.fpinnovations.ca/pdfs/ar_english_final.pdf.

[82] Stmt. Def. ¶ 195.

not "provide evidence of the correct log grade."[83] But log grades are, *by definition*, derived from lumber recovery. Canada attempts to muddy the waters by suggesting that numerous variables, such as product choice and mill technology, can affect lumber recovery. But those variables are nowhere to be found in the Forest Act or its regulations.

II. In The SLA, The United States Accepted A New BC Timber Grading System That Would Grade MPB Timber Based On Lumber Suitability

71. The Mill Studies and Canada's own data confirm that in the years since the parties entered the SLA, the amount of nonmerchantable timber has not increased sufficiently to explain the steep and sudden rise in Grade 4 that occurred during 2007 and continued afterward. In fact, the amount of Grade 4 timber observed in the Mill Studies – which were conducted during the very time of the sharp Grade 4 increase – is fully consistent with the grading system grandfathered by the SLA, and inconsistent with the actual amount of Grade 4 after 2007.

72. In 2006, BC changed its timber pricing system to start grading timber based on its *value*, not simply, as before, whether it was "dead and dry." This new system was grandfathered by the SLA. In that new system, the 50/50 rule became determinative, meaning the primary consideration in grading is how much of an MPB log is merchantable, not whether the log was dead and dry. Now Canada contends that the 50/50 rule means nothing at all and bears no relationship to lumber suitability, even though an estimate of lumber output is at the heart of the rule. Canada offers an implausible series of explanations and events that all assume the grandfathered reforms are largely meaningless.

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[83] Stmt. Def. ¶ 196.

A. Canada Ignored The New Reforms' First-Year Performance

73. As an initial matter, Canada fails to acknowledge (let alone to attempt to reconcile with its current position) the fact that for most of the first year under the new system, the amount of Grade 4 dropped and held steady between 10 and 20 percent.[84] Then, suddenly, in May 2007, the amount of Grade 4 surged to nearly 40 percent and continued to rise up to 60 percent the following year.[85] Canada entirely ignores the demonstration in the Statement of Case that the reformed system functioned as anticipated for nearly one year. Instead, it asks the Tribunal to believe that despite the consideration and testing that preceded the new system, despite everything Canada knew about the infestation, and despite its concession that the volume of dead and dry timber had peaked, as expected, in 2007, there nonetheless was an unexplained influx of Grade 4 timber within a matter of months after the Agreement was signed.[86] Canada's failure to even acknowledge the results of the newly-reformed BC grading system's first year of performance is telling, given that the evidence demonstrates that the system functioned well and as-expected and that nothing, other than the North American housing market, changed in early 2007.[87] Canada's only explanation is that BC producers started harvesting timber that had been dead longer, but this is no explanation at all. As demonstrated, the 2006 reforms accounted for longer-dead timber in the variable price of Grades 1 and 2. In short, Canada has no explanation for its short period of compliance

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[84] *See* C-115, CAN-007183-89 at CAN-007184 (ISAC minutes dated March 6, 2007, stating that the new log grading standards were "doing what we had hoped for."); C-116 CAN-020939-41; C-117, CAN-020936-38.

[85] Stmt. Case ¶ 61.

[86] The peak of the volume of dead and dry timber is to be distinguished from the peak of the infestation, which was earlier.

[87] C-121; C-118, CAN-048992-49053 at CAN-049036-39.

after it signed the SLA, which cannot be reconciled with Canada's single excuse for the later surge in Grade 4.

74. Canada's argument rests almost entirely on the premise that the April 2006 reforms to the grading system have nothing whatsoever to do with the quality of timber. Canada's notion that grade has nothing to do with quality undergirds Canada's argument that the 50/50 rule cannot predict lumber output (despite the fact that the rule itself requires graders to consider lumber suitability), and ignores the contemporaneous evidence documenting the true reason for the reforms. As the United States demonstrated in the Statement of Case, the purpose of the 2006 reforms was to improve the timber pricing system so that "[t]imber will be priced in a manner that reflects market value . . . ."[88] Before 2006, a log passing the 50/50 rule would still be graded at the low, flat stumpage fee if the log was dead and dry. After the reforms, the 50/50 rule was extended to apply to all timber, including MPB timber, and became the controlling indicator of grade. If an MPB log passed the rule, it would not be Grade 4, regardless of whether it was dead and dry. This was all done to acknowledge that the previous system was straying farther and farther away from any semblance of a market-based system and had increasingly less connection to the market value of the timber. Canada concedes this only once in its Statement of Defence, stating that "the Ministry also believed that the change would allow it to move forward with market based reforms by introducing, in the Interior, 'quality' as the determinant of grade."[89]

75. The language of the Agreement memorializes the importance of the new system and the move toward a more market-based system, yet Canada contends that the

[88] Stmt. Case ¶ 48, (citing C-23, CAN-037128 at CAN-037138).

[89] Stmt. Def. ¶ 135 (citing R-3 ¶ 54).

April 2006 reforms were not mentioned in the SLA, and were not important to the United States.[90] This claim is belied by the contemporaneous evidence as well as by the language of the SLA.

76. Canada fails to address or even to acknowledge the evidence cited in the Statement of Case that Canada's own official, BC's Forest Service Chief of Resource and Regulatory Economics, understood the 2006 reforms as important to any negotiated settlement between the United States and Canada.[91]

77. More to the point, the SLA identifies the BC timber pricing system, of which timber grading is a component.[92] Moreover, there are specific references to the BC grading rules in two documents identified and incorporated into the SLA as part of BC's system.[93]

78. Canada claims that it "strains credulity" to observe that the April 2006 BC Interior log grades and rules are tied to the SLA, but the language of the Agreement and the incorporated documents speak for themselves. The April 2006 BC Interior timber grading system is a term of the SLA. In addition to the statement of the Canadian Forest Service that the reformed BC Interior grading system was integral to the Agreement (see above), BC included the following in an April 2007 high-level briefing memorandum for

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[90] *Id.* ¶¶ 140-42.

[91] Stmt. Case ¶ 54 (citing C-20, CAN-000442).

[92] SLA, art. XVII, ¶¶ 2(a), 4(a).

[93] SLA, art. XVII, ¶ 4(a) and art. XXI, ¶ 35; *see* C-25, CAN-028636-49 at CAN-028639 (BC manual identifying the "Interior Log Grades. . . . On April 1, 2006, the Interior log grades were changed . . . ." and noting that under the new grades, 95 percent of the former Grade 3 are saw logs under the new grades; *see also* R-126, CAN 028620-35 at CAN-028626 (SLA-incorporated manual referencing the province's expectation that "new Grades 1 and 2" will consist of 100 percent of the former "Blank" Grade and 95 percent of the former Grade 3).

the Minister of Forests and Range: " [

]"[94]

79. Further, the Anti-circumvention provision makes clear that maintaining or improving the BC stumpage system – of which the grading scheme is a primary element – was of paramount importance. The Agreement does not grandfather any changes to the stumpage system that do not maintain or improve the extent to which stumpage charges reflect market conditions, *including prices* and costs. For example, hypothetically, if Canada were to change its stumpage system to eliminate the 50/50 rule, that change would likely constitute a circumvention because, absent some other compensatory change, the elimination of the 50/50 rule would move the pricing of timber in BC away from market conditions. In other words, the parties agreed that the stumpage system as of July 1, 2006 was acceptable and could be grandfathered, but it could not be changed unless it maintained or improved the extent to which the system reflects market conditions.

B. Canada Distorted The 50/50 Rule And The Relationship Between Grading And Lumber Output

80. Although Canada denies that the 50/50 rule is intended to assess stumpage based on the amount of merchantable lumber that a log will produce,[95] the 50/50 rule in fact was a crucial benchmark under the bargain that the United States struck with Canada

[94] C-119, CAN-053883-86 at CAN-053884 (emphasis added); *see also* C-120, CAN-000969-72 at CAN-000971.

[95] *See, e.g.*, Stmt. Def. ¶ 21.

in the SLA. The rule, which is codified in the Scaling Regulation, defines what timber qualifies as a sawlog: "A log or slab 2.5 m in length and 5cm or more in radius where . . . at least 50% of the gross scale can be manufactured into lumber and at least 50% of the lumber will be merchantable."[96] In its Statement of Defence, Canada attempts to divest the rule of any meaning or force. Canada spends an inordinate number of pages asserting what it thinks the 50/50 rule should *not* do,[97] but never explains what purpose the rule actually serves in its view.

81. Canada acknowledges that the 50/50 rule "as implemented by the Scaling Manual provides the basis for determining whether lodgepole pine is Grade 2 or Grade 4."[98] But then Canada contradicts itself by asserting that the 50/50 rule does not predict how much lumber a mill will actually produce from a log.[99] In Canada's view, the 50/50 rule does not matter because a log's grade "must be based on its physical characteristics," regardless of how much merchantable lumber that it will produce.[100] Canada describes a timber pricing system that neither enforces the 50/50 rule nor

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[96] R-22, Scaling Regulation, B.C. Reg. 446/94, § 4-Schedule of Interior Timber Grades.

[97] *See, e.g.*, Stmt. Def. ¶ 21 ("{T}he United States misconstrues the 50/50 rule } as one that predicts how much lumber a mill will actually produce from a log, something the rule does not do."); *id.* ¶ 128 (arguing that the United States' case "rests on {the} false premise{} . . . that the accuracy of log grading can be determined by how well it predicts lumber recoveries").

[98] *Id.* ¶ 54.

[99] *Id.* ¶ 21; *see also id.* ¶ 56 ("The B.C. log Scaling Regime was not designed to be, and has never been, predicative [sic] of lumber recovery.").

[100] *See id.* ¶ 55.

maintains or improves the extent to which the pricing of timber reflects market conditions. Canada thus describes a timber pricing system that circumvents the SLA.[101]

82. Canada has not cited any part of the Forest Act or the Scaling Regulation (the authorities that actually govern scaling) to support its argument that scaling practices take precedence over the 50/50 rule. Instead, Canada convolutes the common-sense demonstration that lumber recovery is directly related to the quality of the underlying timber that goes into making lumber. Canada identifies four variables – developments in sawmilling technology, operational practices, product mix, and the quality of lumber being produced – that it argues make lumber recovery an untenable method for assessing timber quality.[102] Canada reasons that because each of these variables can affect lumber recovery, depending on what sawmill or company is processing a given set of logs, lumber recovery cannot be used to determine whether those logs satisfied the 50/50 rule.[103] Canada's reasoning is flawed.

83. Although specific business decisions by sawmills might affect lumber recovery, none of the variables on which Canada relies can explain how the BC Interior lodgepole pine harvests from 2007 to 2010, which had a higher and higher percentage of Grade 4 logs starting in 2007, could produce the lumber yields they did. To be certain, as

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[101] This view notwithstanding, Canada summarily contends that it "has ensured that its stumpage charges accurately reflect the market value of the timber harvest." Stmt. Def. ¶ 66 (citing R-6 ¶ 38); R-123 at 9-10.

[102] Stmt. Def. ¶ 145.

[103] *Id.* ¶ 56 ("{I}t is up to the manufacturer to get the best and most product out of the available volume.") (quoting C-50 § 8.3 at 8-4); *id.* ¶ 198 ("One mill might choose to focus on recovering a few high-grade, high-value boards from a log, while another might instead process the same log into a large number of low-grade, low-value boards.").

Canada notes, a sawmill may elect a product mix that decreases lumber recovery[104] – say, to maximize J Grade recovery – but that reflects a business decision that pushes lumber recovery down. No sawmill can elect a product mix in such a way as to turn a true Grade 4 log into one that produces enough merchantable lumber to satisfy the 50/50 rule. If Grade 4 logs do that, by definition, they have been misgraded. This is because the 50/50 rule requires the grader to estimate merchantability. If a log fails the 50/50 rule but then is sold as merchantable lumber, the grading was not accurate. To the extent that Canada admits that this is happening, Canada effectively concedes what it calls the "inferential" case of the United States. Canada admits that its producers are able to make merchantable lumber from Grade 4 logs that should have passed the 50/50 rule. This admission alone proves the claim here.

1. Canada Distorted The Relationship And Hierarchy Of Scaling Authorities

84. In the Statement of Case, the United States demonstrated that BC's April 2006 grading reforms grandfathered by the SLA were designed to grade logs based on their suitability for lumber.[105] Specifically, the United States showed that, under the grandfathered grading reforms, timber would be classified as either Grade 2 or Grade 4 depending on whether a log met the 50/50 rule; that is, whether 50 percent of a scaled log can be made into lumber, and whether 50 percent of that lumber will be of "merchantable" quality.[106] Canada agrees that the 50/50 rule provides the basis for

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[104] *Id.* ¶ 56.

[105] *See generally* Stmt. Case, ¶¶ 12-49.

[106] *Id.* ¶ 40.

determining Grade 2 or Grade 4,[107] but then insists that its scaling and grading system does not attempt or purport to predict recovery.[108] This cannot be true, and Canada's attempt to marginalize the grandfathered 50/50 rule and dissociate its scaling and grading system from lumber output, fails.

85. A scaling and grading system that applies the 50/50 rule must also necessarily show a strong correlation to output. The United States first explains below the hierarchy of authorities that govern scaling in the BC Interior. It then shows that, under the hierarchy of authorities, the 50/50 rule provides the standard against which BC Interior timber must be graded, and that BC is not permitted to subordinate the role of the 50/50 rule. Finally, the United States explains that BC's log grades, governed by the 50/50 rule, are necessarily related to output.

86. BC timber scaling is governed by the Forest Act, the Scaling Regulations, and the Scaling Manual.[109] BC has [

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[107] Stmt. Def. 54.

[108] *Id.* ¶¶ 48, 49, 58.

[109] *Id.* ¶ 46.

[110] C-18, CAN-007146-64 at CAN-007156.

[111] *Id.* at CAN-007156.

[112] *Id.*

[113] *Id.*; *see also id.* at CAN-007157.

] [114]

] [115]

87. The Forest Act, at the top of the ladder, does not specify how scaling should be performed. That issue is first addressed in the Scaling Regulation, which contains the Schedule of Interior Timber Grades, definitions for timber grades that must be used to grade timber in BC's interior.[116] Most relevant to this proceeding, the Schedule of Interior Timber Grades defines the boundary between Grade 2 and Grade 4 for lodgepole pine in the "50/50 rule." The schedule defines the 50/50 rule as follows: "at least 50 percent of the gross scale *can be* manufactured into lumber" and "at least 50 percent of the lumber *will be* merchantable."[117] The 50/50 rule, as set forth in the Scaling Regulations, is, accordingly, the highest level of support and authority for the division between Grade 2 and Grade 4 lodgepole pine. BC, therefore, has no legal authority or ability to abandon, contravene, or undermine the implementation or application of the 50/50 rule through any policy, procedure, or other action.

88. In short, the 50/50 rule is the controlling rule against which timber must be graded. Accordingly, Canada cannot marginalize its importance to the scaling and grading process or implement any procedures that undermine the 50/50 rule. As a specific example, BC may not rely on provisions in the Scaling Manual to undermine the

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[114] C-18, CAN-007146-64 at CAN-007156.

[115] *Id.* at CAN-007158.

[116] R-142, B.C. Reg. 15/2006 s. 3, am.; R-143, B.C. Regs. 80/2006; 385/2008; C-50 CAN-008253-00-8742 at CAN-008441.

[117] R-142, B.C. Reg. 15/2006 s. 3(4)(d) and (e) (emphasis added).

implementation or application of the 50/50 rule. Moreover, the 50/50 rule was grandfathered by the SLA.

2. Canada Ignored That The 50/50 Rule Ties Log Grades To Output

89. In its Statement of Defence, Canada attempts to marginalize the importance of the 50/50 rule, contending that its log grades are not related to lumber recovery or quality. But the very point of the 50/50 rule is to ensure that a log's ultimate merchantability (*i.e.*, its likely output) is accounted for in the stumpage price.

90. At the outset, Canada attempts to distance BC's timber grades from lumber recovery by introducing volumetric and product output scaling,[118] and asserting that its log scaling system is an example of a "volumetric system that measures log volume but does not attempt or purport to predict lumber output."[119] However, that BC has a volumetric *scaling* system does not alter the reality that its *grading* system is by definition related to output.

91. Yet Canada attempts to dissociate its *grading* system from output by contending that, although the Scaling Manual implements the 50/50 rule, the log grades assigned pursuant to its guidance bear no relationship to output.[120] This contention ignores the 50/50 rule and is belied by the Scaling Manual itself. As discussed below, Canada's attempt to define its scaling system as having nothing to do with output fails

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[118] Stmt. Def. ¶ 48. In support of its contention, Canada relies upon "The Measurement of Roundwood: Methodologies and Conversion Ratios," and heralds its author, Matthew Fonseca, as "one of the world's leading experts on log scaling," but cites nothing to support its brazen characterization.

[119] *Id.* ¶ 49 (citing R-3 at ¶ 15).

[120] *Id.* ¶¶ 58, 128.

because the correct application of the 50/50 rule necessarily requires a determination of what can be recovered from a log (*i.e.*, its available output).

92. As an initial matter, it is important to understand scaling, grading, and the two prongs of the 50/50 rule. Scaling, as a whole, means "to determine the volume and classify the quality of timber."[121] Classifying the quality of timber is known as "grading."[122] To grade timber, scalers "assess the visible characteristics of each log, and with strict reference to the schedule of log grades, determine what can be recovered from it."[123]

93. The 50/50 rule requires the scaler to determine what portion of the log can be manufactured into lumber and then requires the scaler to determine what portion of that lumber will be merchantable. Put another way, the first prong of the rule is aimed at assessing the volume of a log that can be made into lumber, while the second prong of the rule is aimed at assessing what portion of the log is available to produce a given product and the quality of the product which could be produced. Thus, a proper application of the 50/50 rule requires a determination of both volume and output.

94. In light of the above, Canada's assertion that it implements the 50/50 rule, yet its grades do not relate to output, is implausible. Both prongs of the 50/50 rule specifically require an assessment of the likely output of a particular log. Because the proper application of the 50/50 rule requires a determination of both volume and quality, Canada cannot simultaneously contend it applies the 50/50 rule yet still assert that its system does not attempt or purport to predict product recovery. BC's scaling system,

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[121] C-50, CAN-008253-00-8742 at CAN-008440.

[122] *Id.*

[123] *Id.*

which uses the 50/50 rule, necessarily requires log grades to be tied to lumber volume and quality.

95. That the 50/50 rule and BC's grading system require an assessment of output is supported by BC's Scaling Manual. The Scaling Manual repeatedly and plainly states that grading requires an assessment of product recovery.[124] The chapter entitled "Grading" introduces timber grading by stating that a scaler must assess the characteristics of each log and "determine what can be recovered from it."[125] The Scaling Manual then further specifies that application of the grading rules requires the scalers to not only determine the log's gross dimensions, but also to "estimate what portion of the log is available to produce a given product, and consider the quality of the product which could be produced from a log."[126] Throughout, the grading chapter makes clear that scalers need to be concerned with both the quantity and quality of lumber that can be recovered from each log.[127] The same principle is reiterated elsewhere in the Scaling Manual.[128] In light of these specific statements that deriving the log grade requires the scaler to determine what can be produced from a log, Canada's current contention that BC's grading system does not predict output is implausible.

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[124] *Id.* at CAN-008440-43, 008461; *see also* C-122, CAN-000422-25 at CAN-000423 ([ ]).

[125] C-50 CAN-008253-00-8742 at CAN-008440.

[126] *Id.* at CAN-008442.

[127] *See, e.g., id.* at CAN-008444 (section entitled "characteristics which reduce product recovery (quantity)"); *id.* at CAN-008447 (section entitled "characteristics which reduce product recovery (quality)"), ("we are also concerned with the quality of the products which can be produced from the log"); *id.* at CAN-008458 ("Grade deduction is the process of determining what portion of a log is not suitable for the manufacture of various products.")

[128] *See, e.g., id.* at CAN-008510-11.

96. Furthermore, Canada's attempt to dissociate completely its scaling system from output defies common sense. Generally, the purposes of scaling are to (1) measure for transactional purposes, (2) gauge work accomplished, (3) measure inventory, (4) "measure mill efficiency (recovery)," and (5) "predict[] output in finished products."[129] For example, BC depends upon an "accurate and meaningful scale" in order to calculate stumpage revenue and administer the timber harvest.[130] And, as BC's own Scaling Manual states, grading makes the volume information from the scale "more meaningful and useful," because "the quality and potential end use of logs has significant influence on their value."[131] Therefore, to fulfill the stated goals of scaling and have an accurate, meaningful, and useful scale, BC's timber grades must reflect recovery and predict output. There would be no practical value to BC's timber grades if they were unrelated to the potential end-use of the logs.

3. Canada Used An Unofficial Definition Of Lumber To Avoid The Consequences Of Applying The Scaling Rules

97. Canada makes much of a glossary reference for "lumber," which states "2.5 m long, free of rot and fractures," in an apparent attempt to insinuate that lumber must be "fracture-free."[132] That is not true. "Lumber" is not defined in the statute or regulations, thus implying that the term should be understood in its ordinary commercial meaning. Notably, the text of the Scaling Manual reproduces a different definition taken from the National Lumber Grades Authority; that definition does not mention

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[129] R-119 at 5.

[130] C-50 CAN-008253-00-8742 at CAN-008280.

[131] *Id.* at CAN-008440.

[132] Stmt. Def. ¶¶ 55- 57.

fractures.[133] Thus, it appears that Canada bases its notion that lumber must be "fracture-free" entirely upon a lone reference that it acknowledges is not tied to reality.[134] In reality, as Canada knows, lumber can and often does have checks or splits.

98. Canada knows sawmills produce and sell boards that contain fractures as lumber, yet points to a definition that would exclude that very lumber.[135] Canada cannot have it both ways. Canada admits that log segments with checking can produce lumber that contains fractures.[136] Thus, Canada must also admit that log segments with checking cannot be excluded as unavailable to manufacture lumber when, in fact, those segments yield lumber. Any other result does not comport with reality.

III. Canada Failed To Prove Its Lone Explanation For The 2007 Surge In Grade 4

99. Canada offers only a single explanation for the sudden rise in Grade 4 in 2007. It contends that BC producers have had to reckon with more and more longer-dead timber that presumably does not meet the 50/50 rule. Canada supports this contention

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[133] C-50 CAN-008253-00-8742 at CAN-008444 ("'Lumber is a manufactured product derived from a log in a sawmill, or in a sawmill and planning mill, which when rough; shall have been sawed, edged and trimmed at least to marks made in the conversion of logs to each piece for its overall length, and which has not been further manufactured other than by cross-cutting, ripping, resawing, joining crosswise and/or endwise in a flat plane surfacing with or without end matching and working."). Further, the term "fracture" is not defined, and that term is not in common usage or a term of art that is used in the timber and lumber industry. Additionally, whatever the precise meaning of "fracture," the definition relied upon by Canada does not require lumber to be free from any check at all, because prior to December 2007, surface checks, which would cause some degree of fracture in lumber, were not considered in log grade deductions. R-19 at 6.4.4 ("Surface checks 2 cm or less in depth are not entered in the grade reduction calculation."); *id.* 6.6.6.4.2 ("Outside surface checks 2 cm or less in depth are not accounted for in the grade reduction."). *See also* C-107 ¶¶ 46-52.

[134] Stmt. Def. ¶ 55.

[135] *Id.*

[136] *Id.*

with a variety of disconnected and self-contradictory theories. First, it posits that enhanced mill technology has allowed mills to produce merchantable lumber out of timber that, at first, seems not to pass the 50/50 rule. As discussed earlier, if technology is such that a mill is able to make merchantable lumber out of a particular log, the 50/50 rule, if applied properly, would account for such increased efficiency because the rule considers the ultimate recovery and quality of the lumber that will be made from the log. Canada's suggestion that the 50/50 rule, by design, is not tied to mills' real-world experience is unsupported. Canada also speculates that its salvage operations forced it to remove more damaged timber first, rather than removing and processing the most merchantable timber first. But Canada's description of the operation is at odds with fundamental economic motivation. Finally, Canada suggests that the sudden influx of Grade 4 timber led to a rise in lower grade lumber that was diverted to China, despite the lack of evidence supporting a contemporaneous shift.

A. Mill Technology Cannot Explain The 2007 Surge In Grade 4

100. Canada suggests that [

]137 Canada suggests that the 50/50 rule is tied only to a theoretical notion of what constitutes "lumber" and is not directly tied to what goes on in the real world. There are two primary problems with Canada's theory. First, Canada's theory implicitly concedes that the system has moved away from market

137 *See, e.g.*, id. ¶¶ 101, 145-48, 182-83, 187.

pricing since the SLA went into effect, a fact that Canada attempts to obfuscate by asserting that BC has "ensured that its stumpage charges accurately reflect the market value of the timber harvest."[138] But this cannot be because BC is selling sawlogs that undisputedly satisfy the 50/50 rule to industry for C$0.25 per cubic meter. Canada represented, and the United States expected, the exact opposite when the parties entered into the SLA. The United States did not accept that the concept of lumber in BC's grading system was merely theoretical, and that the stumpage system could easily be circumvented by technological innovation within a matter of months, as Canada implies. That the system maintain or move closer to a market-based one is explicit in the SLA itself. In Canada's view, the parties agreed to a system in which the 50/50 rule would bear less and less relationship to the real world as the years go by. This would make no sense.

101. Canada's view results from a misunderstanding of the purpose and role of the 50/50 rule. If basic technological improvements are such that a mill can recover more lumber from a particular log, that ability must be accounted for when applying the 50/50 rule. Canada's reliance upon technology only supports the demonstration in the Statement of Case that BC has been underselling otherwise merchantable timber. If lumber mills have been able to use technological advances to obtain more merchantable lumber from timber, that must be taken into account during the grading process. The 50/50 rule requires graders to estimate the merchantability of a particular log. If technology in mills is such that that a log can be made into more merchantable lumber than in the past, then that log passes the 50/50 rule *because of* technological advances, not in spite of them.

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[138] *Id.* ¶ 66 (emphasis added) (citing R-6 ¶ 38); R-123 at 9-10.

The 50/50 rule does not operate in a vacuum — it is tied to technology and known manufacturing practices. This is particularly so where almost all significant technological improvements predated the sudden increase in Grade 4.

102. Here, forest industry expert Tom Beck explains, most of the "technological advancements" touted by Canada are the same technologies and advancements that mills all over North America have implemented in order to remain competitive.[139] There is no evidence that these practices and equipment are unconventional or in any way extraordinary. Instead, they have been in development for long periods of time and represent sawmills' routine capabilities.[140] Accordingly, technology does not explain BC's sudden surge in Grade 4 and lumber recovery.

103. The second flaw in Canada's theory is that it is untethered to chronology, rendering it an ineffective causal explanation. The report of Drs. Wong and Taylor exhaustively details [

].[141] Thus, as a preliminary matter, more than half of that period occurred *before* the parties signed the SLA; for Canada's theory to have real force, it would have to focus on changes occurring just after the SLA went into effect. Further, the [ ]report upon which Drs. Wong and Taylor rely, shows that spending on [ ][142]

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[139] C-107 ¶ 60.

[140] *Id.* at ¶¶ 59-60.

[141] *See generally* R-12 ¶¶ 88-242. Canada's Statement of Defence appears to misquote the expert report of Drs. Wong and Taylor when it says that the report describes [ ]" *See* Stmt. Def. ¶ 148. The report describes [ ]*See* R-12 ¶ 268.

[142] C-107 Beck Report ¶ 54 (citing R-12, App. 2). [

Indeed, one of Canada's industry witnesses, [ ]recalls [ ].[143] The other industry witness, [ ]indicated that [ ].[144]

104. Canada's own evidence, therefore, demonstrates that many of the technological improvements which Canada credits were in place prior to the claimed sudden increase in mills' ability to recover lumber from low quality logs.

105. Further, Drs. Wong and Taylor, as well as Canada's industry witnesses, discuss [ ] Neither Canada nor its experts explain how a decade-long shift in technology could produce a lumber recovery that offset the sudden jump in Grade 4 in 2007;[145] nor does technological advancement offer a viable explanation for how the system functioned as envisioned from the signing of the SLA until the 2007 sudden increase in Grade 4. Critically, the [ ]also undercuts Canada's assertion elsewhere in the Statement of Defence that the MPB outbreak was not accurately anticipated. Overall, the chronology does not match up, so technology cannot explain any increase in recovery.

Beck Report ¶¶ 55-57.

[143] R-5 ¶ 19.

[144] R-2 ¶ 31.[ ]says that [ ].

[145] *See* R-12 ¶¶ 88-242; R-5 ¶¶ 16-20; R-2 ¶¶ 31-39.

106. Additionally, Canada and its witnesses repeatedly refer to the costs associated with the technological innovations that occurred in BC, but none of them explains the relevance of these costs in this proceeding. For instance, Drs. Wong and Taylor [

].[146] While the United States does not dispute that the BC Interior sawmilling industry undertook capital improvements, it does contest the relevance of Canada's sweeping allusions to capital expenditures. Canada never explains why statistics related to those capital improvements have anything to do with the claim presented by the United States here. Those costs are irrelevant to this arbitration because they add nothing to the analysis of whether BC Industry received a benefit in the form of underpriced timber.

107. Moreover, the mere presentation of statistics without context is potentially misleading. To the extent that Canada can use [

] to show anything, that data would need to distinguish between capital expenditures that BC Interior mills undertook to remain competitive in the sawmilling industry generally and those they undertook specifically to address the MPB outbreak. Canada's data do not do that.

108. The general statements from Canada's industry witnesses about [

]are vague, unsupported, and add nothing to the analysis of what extent the MPB outbreak necessitated the expenditures.[147] In fact, many, if not most, of the "[ ]" detailed in [ ]appear *not* to be related to the MPB outbreak.[148]

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[146] R-12 ¶ 268 (citing R-12 App. 2).

[147] R-5 ¶¶ 19-20; R-2 ¶¶ 31.

[148] C-107 Beck Report ¶ 60, Table 3.

Instead, they are technologies that have been installed in other sawmills throughout North America and simply represent efforts by BC mills to maintain their competitiveness by implementing currently-available technology.[149]

109. When [ ]asserts [

].[150] Likewise, when [says

[

]" it is not clear how he derived that number (he provides no documentary support) and, more importantly, it is not clear whether that was money that his company had to spend to stay competitive regardless of the MPB outbreak. [151]

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[149] C-107 Beck Report 54-59. Drs. Wong and Taylor confirm this view, noting that [

] R-12 ¶ 89.

[150] R-5 ¶¶ 19-20.

[151] R-2 ¶ 31. In an apparent attempt to create the appearance of depth where there is none, Canada has Professor Kalt recapitulate these unsubstantiated statements in his report and weave them together with broad generalizations derived from the expert report of Drs. Wong and Taylor. To the extent that he is repeating what other witnesses or experts say in their statements, Professor Kalt adds nothing to the discussion, and he certainly does not cure any infirmities in their statements. Nor does he possess the qualifications or expertise to do so. Thus, when he catalogues the various changes to mills and comments (without citation) that they " [

]" he offers an opinion that has no weight of expertise behind it. R-09 ¶¶ 63-66.

B. Canada's Salvage Theory Cannot Explain The 2007 Surge In Grade 4

110. As part of its attempt to explain away the larger and larger amounts of Grade 4 timber sold to BC Industry from 2007 to 2010, Canada offers an incomplete and overly simplistic understanding of salvage economics, contending that urgent changes in salvage practices account for the sudden increase.[152] Canada contends that the increased volume of longer-dead trees required BC producers to take more and more salvage grade timber to its mills. This explanation ignores the history of salvage operations in BC and is contradicted by basic principles of economics. In reality, BC producers, faced with more timber than they could harvest, began to selectively take the best and most profitable logs to the mill and leave the lowest quality logs and log segments behind in the forest.

111. Around 2005, the BC government and the softwood lumber industry shifted their MPB strategy from containment, suppression, and control of the outbreak to salvage operations.[153] Professor Kalt distills principles of salvage economics into a few observations about incentives: "if the value of an asset depreciates with time . . . a market-responsive harvester has the incentive to extract the most value from the degrading asset{} as quickly as possible."[154] In the context of the MPB outbreak, "a rational forest owner has the incentive to harvest today because, if left in the ground, the value of the trees *decrease* {sic} as the tree{s} move{} through the stages of attack from

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[152] Stmt. Def. ¶¶ 97-102.

[153] *See id.* ¶¶ 96-97.

[154] R-9 ¶ 45.

green to red to grey over time."[155] That in turn creates an incentive "to shift the harvest today toward dead trees that can at least cover the cost of harvesting."[156] In addition, Professor Kalt explains that "well-functioning markets would produce innovations that allow owners to capture as much value as possible from their depreciating assets."[157]

112. Although generally correct as a matter of economic theory, Canada and Professor Kalt's discussion of salvage economics does not account for the unique characteristics of the BC timber market, or for the actual response on the ground. Most notably, BC timber companies are not faced with a binary harvest-or-depreciate choice, as Professor Kalt's discussion implies. Rather, because they are faced with a supply of trees that need to be salvaged that far outstrips their ability to harvest,[158] they have a nuanced choice that is susceptible to profit-maximizing gamesmanship (or innovations); under the very same rational-actor theory that Professor Kalt describes as underlying salvage economics, timber companies have an incentive to harvest a stand of trees, take the best for scaling, and leave behind the unwanted wood as waste. And that is exactly what the numbers demonstrate actually occurred here. Starting at about the same time that Canada identifies as the shift from containment to salvage, the amount of waste increased at a remarkable rate, from just under 200,000 cubic meters in 2004 to nearly

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[155] *Id.*

[156] *Id.* ¶ 46.

[157] *Id.* ¶ 50.

[158] *See, e.g.*, R-6 ¶ 26 ("Even with a significant salvage effort, it will not be possible to harvest all of the dead pine before it has become worthless. Much of it will be left to rot or burn.").

700,000 cubic meters by 2007.[159] In other words, lumber producers began to leave the worst timber in the forest and take the best to the mills, a practice sometimes referred to as "high-grading." This is hardly a technological innovation.

113. As Tom Beck explains, harvest sites in BC, like in most of North America, are subject to a "waste scale," under which licensees are charged a stumpage fee for logs left behind.[160] The waste scale fee is generally equal to what would have been paid had the log been removed and scaled.[161] This system ensures that the timber seller receives payment for all of the timber in the harvest area, but also allows the timber buyer to leave behind logs or logs segments that the buyer cannot profitably process.[162] Although the buyer still pays the waste scale fee, the buyer does not have to bear the expense of hauling or processing the timber.[163] Under Professor Kalt's basic principles of salvage economics, a profit-maximizing rational actor faced with an inexhaustible supply of salvageable trees has an incentive to leave waste materials behind. That BC producers have acted on this incentive is evidenced by the over three-fold increase in reported lodgepole waste volume that occurred between 2004 and 2007. Indeed, [

], explains that [

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[159] C-107 ¶¶ 22-23, Fig. 3.

[160] *Id.* ¶¶ 10-18.

[161] *Id.* ¶¶ 15-16, Table 1.

[162] *Id.*

[163] *Id.* ¶ 15.

]164

114. The incentive for BC producers to high grade is particularly strong because BC's current waste scale system also allows them to leave behind certain waste without having to pay a waste scale fee. In April 2006, BC amended its Waste Measurement Procedures Manual and created a new category of waste logs that did not exist for scaled logs: "Dry Grade 4."[165] The waste manual did not provide guidelines for distinguishing between Grade 4 waste and Dry Grade 4 waste, and Dry Grade 4 waste is not measured or billed.[166] Producers may, therefore, leave behind the logs they deem Dry Grade 4 waste without any restrictions or costs. Accordingly, BC producers have an even greater incentive to exploit vague guidelines in order to avoid paying for the worst salvage material.[167] Because Dry Grade 4 is never measured or billed, the Dry Grade 4 logs are not included when discussing the dramatic increase in waste volume. Instead, Dry Grade 4 represents an additional, unknown but significant, quantity of waste that is left behind.[168]

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[164] R-5 ¶ 14.

[165] C-107 ¶¶ 17-18, Table 2.

[166] *Id.*, ¶ 18. That the waste manual did not provide guidelines for distinguishing between Grade 4 waste and Dry Grade 4 waste or for measuring the amount of Dry Grade 4 is surprising given that BC knew that waste was a problem well before the introduction of the new grading system and that there was a subset of waste that was not accounted for. *See* C-12, CAN-000001-13 at CAN-000011 (Interior Log Grades; A Report from the Interior Scaling Technical Advisory Subcommittee July 12, 2005, noting that "it has been suggested from outside the subcommittee that the bad Grade 3 was not available for testing, as it does not leave the bush").

[167] *Id.*, ¶¶ 21-29.

[168] *Id.*, ¶¶ 29; *see also* C-127, CAN-17013-211 at CAN-17107 (2010 Annual Allowable Cut analysis noting input that "[

115. Anecdotal reports and Canadian documents indicate that the volume of waste left behind is staggering, and that BC is well aware that high grading occurs. For example, in a 2009 Ministry document, BC suggested that there was [

]169 and noted that its [

].170

116. The discussion in that document was prompted by a March 2009 report by Ben Parfitt of the Canadian Centre for Policy Alternatives entitled *Shortchanged, Tallying the Legacy of Waste in BC's Logging Industry*.171 That report noted that, "{i}n district after district, logging and wood waste levels frequently diverged. For example, in Quesnel, "logging rates fell {six} per cent in 2005 and {seven} per cent in 2006, while wood waste levels increased respectively 937 per cent and 585 per cent."172 Similarly, the report called into question BC's enforcement of its "take or pay" policy, noting that "{i}n some forest districts, logging companies reported zero or virtually no wood waste, while in immediately adjacent districts high waste levels were reported, suggesting lapses

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]).

169 C-123, CAN-028382-401 at CAN-028398.

170 *Id.*at CAN-028399.

171 C-124.

172 *Id.* at 2; *see also* C-125 CAN000636-78 at CAN-000663-64; C-126 CAN-055408-10 at CAN-054409.

in reporting and enforcement."[173] Other articles and reports document "mini-mountains" of waste materials left behind.[174]

117. Canada and its witnesses never mention the effects that waste scaling *or* unscaled waste have on the BC industry's incentives. To be certain, leaving waste in the bush is not, in and of itself, a problem. What is a problem is Canada's failure to acknowledge it. For instance, Canada repeatedly invokes the growing increase in dead timber and the age of that timber without acknowledging that the Interior-wide numbers they are reporting must be discounted to allow for the fact that industry can leave the worst logs behind, possibly at no cost.[175] Furthermore, because producers are high-grading MPB timber, the logs that reach the mills to be scaled and processed are those logs that have been deemed acceptable for the manufacture of lumber, that will be the most profitable, and that are more likely to satisfy the 50/50 rule.[176] All the evidence demonstrates that mills would have first collected the most freshly killed timber, not the longest dead timber, undermining Canada's explanation entirely.

118. Likewise, when Dr. Lewis gives an opinion about tree characteristics, that opinion is based upon how trees appear in the forest, not at the scaling site, after companies have had a chance to leave behind the most severely checked or otherwise

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[173] C-124 at 2.

[174] C-107 ¶¶ 26-29, Figs. 2-3.

[175] *See, e.g.*, Stmt. Def. Fig. 18 at 71; R-7 App. A. *But see* Stmt. Def. ¶ 153: "The percentage of harvested pine *subject to scaling* that was in either Red or Grey Stage increased each year from 2006 through 2009, and the proportion of timber that was grey also increased during that time." (emphasis added).

[176] C-107 ¶ 37.

damaged logs.[177] Indeed, the logs that actually reach the mills will have fewer and smaller checks and will produce lumber with less volume and value loss than the logs examined by Dr. Lewis and in the mill studies.[178] All the evidence thus demonstrates that mills would have first collected the most freshly killed timber, not the longest dead timber, undermining Canada's explanation entirely.

C. An Unanticipated Rise In Longer-Dead Timber And Development Of A New Market In China Cannot Explain The 2007 Surge In Grade 4

119. Canada attempts to attribute the surge in Grade 4 timber in 2007 to an unanticipated rise in MPB timber that was dead two or more years, and that BC mitigated the effects of this unanticipated rise in Grade 4 timber by developing a market for low-quality, nonmerchantable lumber in China. Canada contends that evidence of BC's shift to the production of low-quality lumber is corroborated by a dramatic increase in the volume of lumber exported to China in recent years.[179] Canada has presented no evidence establishing that BC's exports to China absorbed an influx of low-quality lumber during the relevant period. Much like Canada's explanation of technological advances, Canada misunderstands the chronology of events, leading it to draw incorrect conclusions about the reason for the Grade 4 increase.

120. First, Canada contends that BC exports of "SPF lumber" to China effectively doubled each year between 2006 and 2010.[180] Canada cites no authority or any actual data for this assertion, but even if it did, Canada's assertion still would be misleading. "SPF" or "spruce-pine-fir" lumber is not produced solely from the

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[177] *See* R-10 ¶¶ 39-41.

[178] C-107 ¶¶ 37, 39.

[179] Stmt. Def., ¶ 177.

[180] *Id.* ¶ 177.

Lodgepole Pine trees killed by the mountain pine beetle that are at issue here, but rather comprises species of White Spruce, Engelmann Spruce, Lodgepole Pine, and Alpine Fir.[181] Thus, an increase in BC's exports of SPF lumber does not necessarily translate into an increase in its exports of low-quality lumber.

121. Second, to support its claim that [

], Canada relies on the statement of a fact witness,

[

][182] As an initial matter, nothing in [ ]education and professional background qualifies him for the type of economic analysis required to determine whether BC's exports to China account for BC's purported increased production of low-quality lumber.[183] In any event, his assertions are confined to [

][184] As such, [ ] statement falls far short of establishing Canada's claim that an unanticipated rise in MPB timber dead two or more years caused BC to develop a market for nonmerchantable lumber in China.

122. Furthermore, while [ ]expounds on [

].[185] Nor does [ ]provide any data broken down by year and lumber product or grade to make it possible to pinpoint when China emerged as a market for BC's low-quality

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[181] C-128 ("SPF Products," *Canada Wood*, www.canadawood.org/pro.spf.php).

[182] Stmt. Def. ¶ 178 (citing R-5 ¶ 26).

[183] R-5 ¶¶ 3-4.

[184] *Id.* ¶¶ 21-28.

[185] *Id.* ¶¶ 23-27.

lumber. In fact, [ ]witness statement creates the inaccurate impression that BC's purported increased production of low-grade lumber directly corresponds with China's increased demand for this type of lumber.[186] Canada offers no export data to confirm the veracity of its claim. This is because the China export data do not track the rise in Grade 4 timber at all.

123. The "dramatic increase" on which Canada relies did not take place until 2010, and even then it is not clear what proportion of lumber exports were comprised of low-quality lumber.[187] Until then, between 2007 and 2009, BC sawmills, including [ ], either curtailed operations or closed down completely due to the collapse of the United States housing market.[188]

124. More importantly, Canada relies improperly on [ ]as the basis for explaining BC's experience. Even assuming that [ ]could be extrapolated to all of BC and its supply of low-grade lumber (and Canada provides no support for such an extrapolation), [ ] experience still does not reflect a "dramatic increase" of exports to China of low-grade lumber for every year from 2006 until the present. Based on [ ]own press releases, 2007 through 2009 were difficult years for the company. During that period, [

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[186] *Id.* ¶ 24.

[187] C-129 at 2 ("The Forest Industry Snapshot," Ministry of Forests, Lands and Natural Resource Operations, British Columbia (May 2011)).

[188] C-130 ("China imports of BC lumber jump 97%," *International Forest Industry* (Aug. 12, 2011)).

] [189] [

] [190] [ ] concedes as much when stating that "[

]"[191] As [ ] recognizes, [

]

]"[192]

125. Notably, [

] [193] Thus, [ ]experience exporting lumber to China does not account for any increased production of low-grade lumber, let alone account for a BC-wide increase in low-quality lumber during the relevant period from 2006 through the present.

126. As with [ ], not all of BC's exports to China were confined to low-grade lumber used for concrete crates, but included other types of lumber products. Furthermore, as of 2010, BC exported only an estimated 16 percent of its lumber to

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[189] C-131 [
;] C-132, [
;] C-133, [
.]

[190] C-134 [
.]

[191] R-5 ¶ 25 (emphasis added).

[192] *Id.* ¶ 28; *see also* C-130 ([
]).

[193] C-134 ([ ]).

China.[194] Thus, Canada cannot rely on exports to China to explain the purported shift in production to low-grade lumber before 2010.

127. [ ] also states that, [ ][195] While true, the reduction in Russian exports to China did not have any effect on BC until later. BC's opportunity to increase its lumber exports to China came about in large part because Russia, previously China's key lumber supplier, imposed a 25 percent log export tax in April 2008 and proposed implementing an 80 percent log export tax in late 2009.[196]

IV. Canada Failed To Refute The U.S. Demonstration That BC Took Other Actions To Facilitate Downgrading Of MPB Timber

128. Canada misconstrues the Statement of Case as "advancing two distinct arguments," an "inferential" case and an "actions" case, and further states incorrectly that the "inferential case identifies no action by British Columbia, nor any benefit to Canadian lumber producers other than some assumed benefit flowing from the rising percentage of Grade 4 timber in the harvest."[197] In reality, the United States is advancing one case, not two, and the principal action of which the United States complains is BC's selling of timber at stumpage fees far below those required by the system grandfathered by the SLA. Article XVII of the SLA precludes Canada (or its provinces) from taking any

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[194] C-135 ("US and Canadian log and lumber exports to China up over 150 percent in 2010," and attributing the rise to the housing market bubble in 2008, *Wood Resources International LLC*).

[195] R-5 ¶ 23.

[196] C-136 ("China still importing (and requiring) huge volumes of Russian Logs and Lumber," *International Wood Markets Group* (Aug. 12, 2009)); C-137 ("China facing the brunt of pending log supply shortage as a result of Russia's current 25% Log Export Tax and the scheduled 80% Tax," *International Wood Markets Group Inc.* (Jan. 27, 2009)).

[197] *See, e.g.*, Stmt. Def. ¶¶ 1, 8.

action to circumvent or offset the commitments under the SLA, and provides further that grants or benefits that a public authority provides to producers or exporters of softwood lumber products shall be considered to reduce or offset the Export Measures (unless the grants or benefits qualify under limited exceptions).[198]

129. By any definition, selling is most certainly an action by BC, and BC producers' and exporters' receipt of timber in exchange for stumpage fees far lower than the fees they would have paid under the system grandfathered by the SLA is most certainly a benefit to them.

130. The United States has demonstrated its claim by showing (as explained above) that most of the timber sold at the minimum Grade 4 rate should have been sold at the higher, sawlog rate. That BC has provided timber for a price below that required under the grandfathered pricing system, alone, constitutes a circumvention of the SLA. As a further demonstration of the dynamic occurring in the BC Interior, which resulted in BC's underpricing of public timber, the United States has provided examples of the specific ways that public authorities within BC created the situation where the province would be underpricing Crown timber. Accordingly, the "actions" case to which Canada refers is actually an inexhaustive list of steps that BC has taken to facilitate its sales of timber to BC producers and exporters at stumpage fees lower than those required by the SLA.

131. In its Statement of Defence, Canada bifurcates the U.S. case into "inferential" and "actions" cases and addresses the so-called "actions" case by contending that each of the alleged "actions" is either grandfathered or "safeharboured"

[198] SLA, Art. XVII ¶¶ (1) and (2).

by the SLA.[199] Canada misconstrues the demonstration in the Statement of Case regarding the steps BC has taken to facilitate the misgrading and sale of timber at stumpage fees below those required by the 2006 reforms.

A. BC Urged Use Of "Local Knowledge" As A Means To Facilitate Misgrading And Underpricing Of MPB Timber

132. In the Statement of Case, the United States established that BC has encouraged lumber producers to use untested grading practices based on "local knowledge" and to be creative in ways to detect defects in logs, thus increasing the likelihood that logs would be misgraded as Grade 4 even if they satisfied the 50/50 rule.[200] In its Statement of Defence, Canada treats the local knowledge issue as an individual breach – separate and apart from Canada's underpricing of timber – and responds that BC's encouragement to lumber producers is not an action for purposes of the Anti-circumvention provision in the SLA, that the use of "local knowledge" did not confer a benefit on producers and exporters, and that, even if encouraging the use of local knowledge were an action, it is grandfathered by the SLA.[201] The breach is BC's underpricing of timber — and that breach was facilitated in many ways, including BC's manipulation of local knowledge to encourage misgrading. BC's encouragement of untested practices based on local knowledge is not grandfathered under Article XVII because it resulted in a change to the system that failed to maintain or improve the extent to which the system reflected the market.

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[199] Stmt. Def. ¶¶ 206-53.

[200] Stmt. Case, ¶¶ 95-103.

[201] Stmt. Def., ¶¶ 201-09.

133. In February 2007, BC issued a directive encouraging the use of untested grading practices based on "local knowledge."[202] The February 2007 directive established a change to BC's log grading system. In its Statement of Defence, Canada contends that the February 2, 2007 directive is permissible because (i) it was not a directive; (ii) it did not result in policy change; and (iii) it was not acted upon by the industry.[203] Canada is incorrect.

1. BC Issued A Directive Encouraging The Use Of Local Knowledge

134. Canada dismissively refers to the February 2, 2007 memorandum as an "inconsequential February 2007 email,"[204] and also denies that the Ministry's memorandum was a "directive," contending instead that the well-vetted memorandum was "simply a suggestion."[205] Canada's attempts to downplay the significance of the February 2007 Ministry memorandum are belied by the evidence establishing that the memorandum was in fact a directive that consumed months of consideration by ISAC.

135. The February 2007 memorandum was designed to respond to industry complaints that the existing grading conventions were not generating appropriate levels of Grade 4 because checks were difficult to detect during the winter months. The idea to develop local knowledge for assessing checks during the winter arose at a December 5, 2006 ISAC meeting, at which there was a "{c}oncern that there is a drop in {the} number of Grade 4."[206] During this December 2006 meeting, the Ministry's Steve Laberge was

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[202] Stmt. Case ¶100 (citing C-45, CAN-010975).

[203] Stmt. Def. ¶¶ 203-04.

[204] *Id.* ¶ 201.

[205] *Id.* ¶ 203.

[206] C-138, CAN-007174-76 at CAN-007176.

directed to send a memorandum to district staff "to encourage the development of local knowledge."[207]

136. At a January 2007 Grade Sub-committee meeting, the ISAC discussed Mr. Laberge's draft memorandum regarding local knowledge[208] and decided that he would send a final version to the Ministry Scaling Staff and ISAC.[209] At the meeting, ISAC members again discussed how the issue of measuring checks during the winter was "of great concern to {the} industry," and that "{l}ocal knowledge should be developed first."[210]

137. On February 2, 2007, Mr. Laberge distributed the local knowledge memorandum to lumber producers and scalers. The memorandum expressly states that it was "intended to encourage the development of local scaling knowledge with regard to checks," and that it has been discussed and agreed to by ISAC.[211] The memorandum further provides that the Ministry scaler "has the responsibility to be satisfied that this 'new' local knowledge is accurate and should be reviewed on an ongoing basis."[212]

138. Canada overlooks BC's own documents that characterize the February Ministry memorandum as a "directive." A draft "Scaling Study to Develop Local Knowledge for Checks," which is appended to the September 11, 2007 ISAC meeting minutes, used precisely this term in referring to the Ministry's February 2007

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[207] *Id.*

[208] C-139, CAN-011000-05 at CAN-011001.

[209] *Id.*

[210] *Id.*

[211] C-45, CAN-010975.

[212] *Id.*

memorandum "and other directives."[213] The final version of the scaling study also refers [ ][214]

139. Canada similarly fails to confront the fact that ISAC's issue matrix indicates that the February 2007 memorandum was the only document circulated announcing the new local knowledge policy,[215] and that BC considered the new policy a "high" priority.[216]

140. The supposedly "inconsequential" February 2007 directive was also a leading agenda item for an [ ]. During that conference call, Mr. Laberge discussed the topic of " [ ]"[217] Mr. Laberge elaborated upon the following topics: that " [

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[213] C-49, CAN-011306-29 at CAN-011322.

[214] C-140, CAN-007258-59 at CAN-007258.

[215] C-49, CAN-011306 at CAN-011328.

[216] *Id.* at CAN-011328.

[217] C-73, CAN-010539-44 at CAN-010539.

[218] *Id.* at CAN-010539.

[219] *Id.* at CAN-010541.

141. Thus, far from being an "inconsequential" email and "simply a suggestion" as Canada contends, the February 2007 memorandum encouraging the use of local knowledge was a directive reflecting a "high" priority for the Ministry.

2. BC Announced A New Local-Knowledge Policy Not Grandfathered By The SLA

142. Contrary to Canada's contentions, the February 2007 memorandum announced a policy change in the use of local knowledge. The memorandum itself recognizes that it is announcing a "'new' local knowledge" policy as distinguished from the local knowledge grandfathered by the SLA.[220]

143. In the *Scaling Manual*, "local knowledge" is defined as "various accepted indicators at the local forest service level . . . ."[221] The February 2007 memorandum, by contrast, sets forth how local knowledge would be developed under the new policy:

> Local knowledge as it applies to checks can be attained through bucking, mill studies and/or observation of logs.
> . . .
>
> Local knowledge would be developed by observing the checks on log ends during a summer day and during a winter day. The bucking, mill studies and/or observations of logs should all be used to help scalers determine if the checks go deeper than they look during the winter months, or are shallower than they look during the summer months. Industry and ministry scalers should try on a regular basis to track scaled logs as they go through the mill. The development of that local knowledge is important for scalers in understanding the behavior of checks under different types of weather conditions.[222]

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[220] C-45, CAN-010975.

[221] C-50, CAN-008253-742, at CAN-008460 (2007 Scaling Manual, § 8.4.2.1).

[222] C-45, CAN-010975.

144. Thus, under this changed policy, BC encouraged the development and use of untested grading practices based on scalers' local knowledge. The modified local knowledge practices did not take into account whether the 50/50 rule was being properly applied to logs with checks. In effect, the presence of checks was elevated over the 50/50 rule itself.

145. The significance of the new local knowledge policy is underscored by an April 9, 2009 Ministry memorandum in which BC announced that [

]and that, instead,

"[

]"[223]

146. Although the February 2007 directive recognizes that local knowledge requires Ministry approval and oversight, no such Ministry approval and oversight mechanism is set forth in the directive.[224]

147. Seven months after BC announced the new local-knowledge policy, in September 2007, ISAC members acknowledged that a study on local knowledge had not yet been carried out and that there was a "need {for} a protocol."[225] The ISAC discussed how such a study "could show {that} the local knowledge {was} developed to {the} ministry{'s} satisfaction."[226] Yet, despite the new policy, "{c}alls for 2nd check scales ha{d} gone up dramatically, {which} shows there is something drastically wrong."[227]

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[223] C-47, CAN-026604-607, at CAN-026604.

[224] C-45, CAN-010975.

[225] C-49, CAN-011306-29, at CAN-011309.

[226] *Id.* at CAN-011309.

[227] *Id.* at CAN-011309.

148. The following month, in October 2007, [

]. Among [

]228

149. Again, the new policy required new studies and the development of protocols. BC's action in issuing a local-knowledge directive without addressing Ministry authorization and oversight was an invitation to scalers to rely on untested grading practices as "local knowledge."

150. In fact, BC's failure to conduct studies and develop protocols led to applications of local knowledge that were unrelated to the 50/50 rule. As a result, and as BC recognized, "something {was} drastically wrong."[229]

151. Accordingly, Canada's defense that use of "local knowledge" is not new, but was in fact "grandfathered" fails because BC enacted a new policy. This new policy also belies Canada's explanation of the role of "local knowledge" in the first place. Canada claims that role of "local knowledge" is to achieve a "more accurate scale"[230] based on scalers' knowledge and experience with conditions and log characteristics at the local level. BC's new policy on local knowledge is in tension with this principle in two

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[228] C-54, CAN-007292-95 at CAN-007293.

[229] C-49, CAN-011306-29 at CAN-011309.

[230] Stmt. Def., ¶ 202.

crucial respects: First, BC sought [ ] [231] [

] There is a conflict between the notion that local knowledge is necessary to achieve "accuracy" at the local level, and the notion that such conventions would then be applicable beyond the local level.[232]

152. Second, and relatedly, [

].[233] The focus was *not* accuracy, but consistency. At no time did the province seek to ensure that the use and standardization of local knowledge throughout the Interior was resulting in a more accurate application of the 50/50 rule. As explained in more detail below, Canada conflates the application of deductions for the appearance of checks or other defects with an accurate application of the 50/50 rule. There was nothing specifically "local" or "more accurate" about BC's new policy toward local knowledge.

3. The Local-Knowledge Directive Altered Scaling Decisions

153. Contrary to Canada's contentions, the evidence establishes that scaling decisions were altered as a result of the February 2007 local-knowledge directive.

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[231] C-80, CAN-051098-292 at CAN-051103 (stating that the [ ]").

[232] C-174, CAN-020951-54 at CAN-020953 ([ ]").

[233] C-80, CAN-051098-292 at CAN-051103 ([ ]") (emphasis added); C-174, CAN-020951-54.

154. Relying on Mr. Crover's witness statement, Canada contends that the February 2007 directive had no effect because it was not acted upon by the industry. The evidence establishes the contrary.

155. During a November 2009 scaling supervisors' conference call, [

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]235 This type of "local knowledge" was not arrived at through formal Ministry authorization or oversight.

156. BC was well aware that "[

]236 [

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157. The Ministry's awareness of the industry's abuse of the modified local knowledge policy [

234 C-141, CAN-018873-74 at CAN-018873.

235 *Id.* at CAN-018873.

236 *Id.*

][237] In light of these practices by the industry, [

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158. As for the industry scalers, [

][239] There is no evidence that enforcement options, while considered, were ever pursued.

159. Furthermore, that the new local knowledge policy would be abused in the absence of Ministry authorization and oversight was foreseeable; BC was keenly aware that anything new raises training issues for the scalers.[240] But BC apparently made no effort to provide the required training to ensure the proper development of local knowledge. The Ministry's failure to provide authorization and oversight over the new local-knowledge policy invited and introduced untested grading practices into the scaling process and thereby increased misgrading.

160. Canada also erroneously contends that the United States conceded that BC's modified local knowledge policy is grandfathered under BC's scaling regime. The United States acknowledged in the Statement of Case that the use of local knowledge is grandfathered and that BC's promotion of its use is not itself a breach of the SLA. But here the United States is challenging BC's 2007 directive, which constitutes a change in policy for local knowledge and is not consistent with a policy that would improve the extent to which stumpage reflects market conditions. The type of practice encouraged

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[237] *Id.*

[238] *Id.* at CAN-018874.

[239] *Id.*

[240] C-81, CAN-007343-56, at CAN-007352.

under BC's 2007 directive are unrelated to timber's suitability for lumber under the 50/50 rule. Thus the 2007 directive was *not* grandfathered by the SLA, and it resulted in the misgrading of sawlogs as Grade 4 lumber reject.

161. Canada also makes the unfounded assertion that the United States has "confused the criteria for an action to be grandfathered because it existed on July 1, 2006, and the criteria for a new action that is safe harbored under exception 2(a)." Canada's assertion misreads the SLA. Exception 2(a) does not apply unless Canada establishes that BC's modification of the local knowledge policy "maintain{ed} or improve{d} the extent to which stumpage charges reflect market conditions, including prices and costs."[241] Canada cannot meet this standard because BC's modification of the local knowledge policy facilitated BC's selling of underpriced timber.

162. BC's new policy of standardizing the use of untested grading practices based on local knowledge caused misgrading and thereby provided a benefit to softwood lumber producers. BC's action was not grandfathered under exception 2(a) because the new policy did not exist on July 1, 2006, and the new policy did not improve the extent to which pricing reflects market conditions. BC's action in encouraging the use of local knowledge thus circumvents the SLA.

B. BC Allowed Kiln Warming Logs Prior To Grading To Enable And Facilitate Downgrading Of MPB Timber

163. In the Statement of the Case, the United States demonstrated that BC facilitated the misgrading of sawlogs as Grade 4 by allowing lumber companies to transport logs to their mills and heat the logs in kilns before grading them.[242] The timber

[241] SLA, art. XVII(2)(a).

[242] Stmt. Case ¶¶ 118-34.

grading system reformed in April 2006 and grandfathered by the SLA did not authorize kiln warming logs. Instead, the practice was put into place well after the SLA entered into force, as BC made changes to its grading system to elevate the importance of small-scale checks and increase the share of Grade 4 timber. Allowing kiln warming of logs prior to grading was one of these changes.

164. After requests by industry, and notwithstanding internal Ministry concerns, BC authorized the limited use of kiln warming as part of its timber grading system in November 2007, and it expanded the practice Interior-wide two months later.

165. To be sure, the goal of kiln warming logs was not to create large cracks or damage the logs. Industry would never do such a thing, because large cracks would inhibit the ability of the log to produce lumber. Rather, the purpose of kiln warming logs was to create small checks, particularly on the faces of the logs exposed to the warm, dry air in the lumber kilns. These small-scale, cosmetic checks had no effect on the production of lumber, yet they enabled scalers to downgrade the logs to Grade 4, in contravention of the baseline 50/50 rule.

166. The result of kiln warming was as predicted: a significant increase in the share of Grade 4 timber, an increase unrelated to lumber production and the correct application of the 50/50 rule. The point of kiln warming – like "local knowledge," bucking, and other tools employed in BC's evolving treatment of small-scale checks – was for BC lumber producers to obtain quality sawlogs for "lumber reject" prices. This is why industry – or at least the companies that had suitable kilns – pressured the Ministry to authorize the process.

167. Canada does not dispute the operative facts. Instead, Canada makes two arguments, each of which is contradicted by contemporaneous evidence.

1. There Is No "Sound Science" Showing That Kiln Warming Improves Log Grading

168. First, Canada claims that kiln warming of logs prior to grading "was a process that was developed and supported by sound science."[243] The truth is that there was no science at all studying the effects of kiln warming logs for almost two years after the Ministry authorized the practice. Even now, BC has never scientifically confirmed that the practice enhances grading accuracy, much less validated the practice through rigorous and objective scientific study.

169. Canada acknowledges that by late 2007, BC had acceded to requests by some members of industry to heat logs in lumber kilns before grading.[244] At the time, BC was reluctant to allow kiln warming of logs because, as it noted internally in September 2007, [

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[245] BC further noted that [

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[246]

170. Although Canada contends that in October 2007 BC carried out "[

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[243] Stmt. Def. ¶ 235.

[244] *Id.* ¶¶ 238-40.

[245] *See* C-52, CAN-010637-44 at CAN-010637.

[246] *See id.* at CAN-010641.

], the document Canada cites for this statement does not support this conclusion.[247] The synopsis of the [

]. But [

].[248]

171. Given these results, Ministry officials [

].[249] Despite these reservations, however, BC allowed kiln warming in late 2007 and, by January 2008, Dr. Oliveira had provided his protocol used by BC to expand the practice to other manufacturers and mills.[250] At the time, he explained that his "recommendations were *not* based on data produced by specific experiments involving heating up logs in kilns."[251] This was apparently no impediment.

172. In February 2008, with companies kiln-warming logs throughout the province, BC expressed its "[

] "[252] BC further acknowledged that it had

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[247] Stmt. Def. ¶ 239 (citing R-31, CAN-028337-41).

[248] R-31, CAN-028337-41 at CAN-0028338-39; *see also* C-175, CAN-0011367-75 (with native data included).

[249] *See, e.g.*, C-54, CAN-007292-95 at CAN-007294 (" [

]"); C-55, CAN-007296-306 at CAN-007301.

[250] R-11 ¶ 15.

[251] C-151, CAN-000253-62 at CAN-000253 (emphasis added).

[252] C-59, CAN-007320-25 at CAN-007321.

[

]," [253]

173. Canada states in its Statement of Defence that Dr. Oliveira evaluated kiln warming in a March 2008 report.[254] But Dr. Oliveira's March 2008 "evaluation" was not scientific testing. Dr. Oliveira himself stated in his report that the conclusions were based merely on conversations with mill employees, and he recommended that a "scientific study be conducted" to test whether kiln warming resulted in additional checking or in some way "alter[ed] log grade."[255] Thus, as of March 2008, two months after the Ministry had authorized the practice of warming logs in lumber kilns Interior-wide, there was no scientific support for kiln warming, sound or otherwise.[256]

174. The scientific evidence supporting kiln warming never came. In August 2008, the Ministry admitted in an internal document that [

] [257] BC documents provide evidence that even in 2009, over a year after the BC industry had started kiln warming logs prior to grading, there still was no scientific support for the practice.[258] Indeed, internal Ministry documents make clear that there was resistance to the practice among a segment of the industry, and opposition from

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[253] C-152, CAN-007308-17 at CAN-007313.

[254] Stmt. Def. ¶ 246.

[255] C-65, CAN-002774-808 at CAN-002788.

[256] *Id.*; *see also* C-153, CAN-011573-78 at CAN-011574, 77.

[257] C-46, CAN-008928-36 at CAN-008935; *see also* C-81, CAN-007343-56 at CAN-007354.

[258] C-70, CAN-007044-49 at CAN-007046 (ISAC presentation noting that Dr. Oliveira still had to "come up with data to support {the kiln warming} guidelines" in order to "validate" the practice.); C-142, CAN-007056-61 at CAN-007058.

][259] BC also was well aware that the practice was an issue under the SLA.[260]

175. What is also clear is that Dr. Oliveira was personally invested in the success or failure of kiln warming as a valid technique for log grading. He was first engaged by [

][261] He was then hired by the BC Ministry in January 2008 to design "guidelines" for kiln warming of logs.[262] From that point forward, Dr. Oliveira was tasked with designing and carrying out a means to "validate" kiln warming and his guidelines. Yet, the minutes of a January 2009 ISAC meeting clarify that Dr. Oliveira was not to test the practice, but only to "come up with data to support [the] guidelines."[263]

176. According to Dr. Oliveira's witness statement, this did not take place until summer 2009, when he finally began selecting logs for kiln warming experiments.[264] By this time, however, industry had been grading kiln warmed logs for almost two years using the untested "guidelines." It is perhaps no surprise, then, that Dr. Oliveira's 2009-2010 work to validate the use of the "guidelines" led him to conclude that the process was acceptable. The Tribunal should give Dr. Oliveira's "testing" no weight.

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[259] C-60, CAN-018853-54 at CAN-018853 (" [
]"; *see also* C-143, CAN-026637-39 at CAN-026637.

[260] C-144, CAN-012246-51 at CAN-012247; C-145, CAN-011549; C-146, CAN-028699-701 at CAN-028700.

[261] C-176, CAN-028733-38 at CAN-028733.

[262] R-11 ¶¶ 13-14.

[263] C-70, CAN-007044-49 at CAN-007046.

[264] R-11 ¶ 62.

2. BC Did Not Implement Kiln Warming To Improve Accuracy

177. Second, Canada contends that BC introduced kiln warming to improve accuracy in the grading process.[265] This is untrue. In reality, kiln warming was not intended to improve the accuracy of grading; rather, its purpose was to create small-scale checks that could be used to downgrade perfectly usable sawlogs to Grade 4.[266]

178. The Ministry was aware at the time the April 2006 grades were tested that checks were sometimes difficult to detect, particularly in wet seasons. In its July 2005 memorandum on the proposed new grades, BC noted that "[t]he assessment of checks are dependent on the weather; they close after rainfalls and they open up on sunny days."[267] BC then stated that the "[s]olution" to this problem would be that "scalers will have to pay closer attention and spend more time to properly assess checks. The ability to identify checks is an issue and will need to be addressed in training."[268] Under the April 2006 grades and rules, scalers were required to grade what they could see upon inspection,[269] and to the extent that any likely defects (such as closed checks) went undetected, this would be accounted for in the variable price of sawlogs. Moreover,

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[265] Stmt. Def. ¶ 249.

[266] In the application of the 50/50 standard under the April 2006 Interior timber grading system, checks are relevant only to the first prong (whether 50 % or more of the log is available for lumber); checking is not considered when assessing the second prong (whether 50 percent of the lumber produced will be "merchantable"). C-50; C-177, CAN-020826-70 at CAN-020849. For this second prong, only other aspects (e.g., knots and twist) are considered. *Id.*

[267] *See* C-12, CAN-000001-12 at CAN-000006.

[268] *See* C-12, CAN-000001-12 at CAN-000006.

[269] C-50, CAN-008253-742 at CAN-008446 (Instruction in Scaling Manual that checks must be evaluated "according to what can actually be seen on the log.").

Frank Duran, an experienced scaler and former Master Scaler, states that kiln warming is not necessary at all for a trained scaler to identify checks.[270]

179. Kiln warming logs prior to grading changed this system. Yet BC allowed the practice, providing a benefit to the industry members who wanted the process because these rational companies knew the obvious: kiln warming allowed them to obtain lumber-quality sawlogs for at the Grade 4 "lumber reject" rate.

180. FPInnovations, Dr. Oliveira's employer, makes this explicit exposing kiln warming for what it is. In its 2008-2009 Annual Report, FPInnovations admits the real purpose of BC's kiln warming practice – to produce for its members a "*resulting drop in stumpage fees {that} contributes to cost decreases of approximately $20 to $25 million per year, with even higher savings potential.*"[271] In touting kiln warming, FPInnovations explains that its "major focus" has been "to seek out all potential uses of MPB-affected fibre and maximize both value and recovery."[272] Kiln warming is "{o}ne method, which has been tested over the past three years," and FPInnovations describes it as "a lumber manufacturing technique created in British Columbia that treats MPB-killed logs at very high temperatures before grading."[273]

181. Because the kiln warming is applied before grading, FPInnovations explains, "*{m}ills were thus able to maintain the percentage of grade 4 sawlogs scaled in wet fall, winter, and spring at levels found during dry summers.*"[274] The bottom line for

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[270] C-106 ¶¶ 2, 11, 13.

[271] C-149 at 10-11.

[272] *Id.* at 10.

[273] *Id.*

[274] *Id.* at 10-11.

BC lumber producers is that kiln warming caused a "resulting drop in stumpage fees" allowing mills to achieve enormous cost savings, and potentially greater ones in the years to come, with no loss of lumber recovery or quality.[275] FPInnovations, for its part, identifies $20 to $25 million in annual stumpage savings, "with even higher savings potential," as a benefit to Canada's lumber producers.[276]

182. That industry vigorously sought permission to use the practice in late 2007 is conclusive evidence of three facts: (1) kiln warming was not permitted under the existing (April 2006) timber grading rules; (2) kiln warming does not damage the logs or otherwise diminish the ability of the warmed logs to produce lumber; and (3) kiln warming results in significant cost savings to industry.

183. In this light, Dr. Oliveira's conclusion that kiln warming produces no large-scale checks in logs is not the point. Any other result would have required industry and the British Columbia government to cease the practice. After all, industry (with Dr. Oliveira's assistance) must have already known that the practice does not produce large-scale checks in 2007, or else it would not have requested the Ministry to authorize the practice in the first place. No rational lumber company would intentionally use kiln warming unless it was satisfied that the process in no way diminished the ability of logs to produce lumber.

184. Absent from Canada's Statement of Defence and Dr. Oliveira's report is any objective scientific evidence that kiln warming improves the accuracy of log grades, in a system with the 50/50 rule at its core. Thus, even assuming that Dr. Oliveira had done an adequate job identifying checks on CT scans of logs, his work says nothing as to

[275] *Id.*

[276] *Id.*

Canada's assertion that kiln warming improves the accuracy of log grading. His work focuses only on checks, not grading.

185. In contrast to Canada's position in its Statement of Defence, BC has acknowledged internally that [ ]. In August 1998, as part of considering a number of alternatives to kiln warming, the ISAC (composed of both senior Ministry and industry representatives) concluded that [

] [277] This was undoubtedly one of the reasons that many in the Ministry – [

] [278] Industry never let this happen.

186. In sum, Canada sanctioned kiln warming without any evidence that it would improve grading accuracy, but with the knowledge that it would increase the amount of timber that BC would sell at Grade 4 stumpage fees. This conferred a benefit on lumber producers, who paid less stumpage than they would have paid under the system grandfathered by the SLA.

3. Dr. Oliveira's Work Confirms That Kiln Warming Exposes, And Often Creates, Small-Scale Checks in Warmed Logs

187. Canada's Statement of Defence fails to prove that kiln warming improves accuracy. Rather, all that Canada has done is confirm, through the recent work of Dr. Oliveira, what was known in October 2007: kiln warming opens and creates small-scale checks in the logs. These checks, although small enough to be irrelevant to lumber production, are sufficiently significant to divert into Grade 4 sawlog-quality logs that

[277] C-178, CAN 011791-808 at CAN-011793.

[278] C-60, CAN-018853-54 at CAN-018853.

otherwise pass the 50/50 rule. Former Master Scaler Frank Duran makes this point in his expert report, observing that kiln-induced checking, particularly checking on the log ends, allows scalers to downgrade logs with no adverse effect on eventual lumber production from the log.[279]

188. In his expert report,[280] Dr. Oliveira states that he first attempted a scientific study to ascertain the validity of kiln warming logs in 2009 and 2010. But Dr. Oliveira's 2009-10 study did not test, much less establish, whether kiln warming improves grading accuracy. In fact, he admits that his experiments were designed "to test the effects of kiln-redrying on checks in MPB pine," not to test the effects of the practice on log grades.[281] In any event, Dr. Oliveira's report is not helpful to the Tribunal for a number of reasons:

- As the author of the original kiln warming "guidelines," Dr. Oliveira's personal interest in the outcome of his experiments severely limits his objectivity.
- Dr. Oliveira performed his experiments not under the supervision of scientists, but under the "supervision of counsel for British Columbia," further diminishing his objectivity.
- He selected the logs and performed the experiments in the warmer, drier summer months (July-September 2009), not during the cooler, wetter months for which kiln warming was originally intended.
- He used logs graded by others and assumed that the assigned log grades were accurate; he should have had the logs graded independently using the 50/50 rule.
- He did not select Grade 1 logs for his study at all; thus, his study does not assess the effects of kiln warming on a significant volume of MPB logs.
- He did not grade the logs after kiln warming; he could have done this with his log scans. Instead, he again relied on grades assigned by others.

[279] C-106 ¶¶ 9, 16-19.

[280] R-11 ¶ 62.

[281] R-11 ¶ 62.

- Dr. Oliveira's work was never reviewed and verified by independent scientists.

189. The decision not to independently and scientifically grade the logs before and after his experiments is especially problematic. Dr. Oliveira noted that the logs were scanned both before and after kiln warming,[282] but he failed to analyze the scans to determine the proportion of wood usable in each log for the manufacture of lumber and estimate the proportion of that lumber that would be merchantable. Dr. Oliveira clearly could have performed such a lumber recovery analysis, and assign timber grades, with existing technology at his disposal.[283] Indeed, despite the clear ability to do so, Canada has proffered no evidence – through Dr. Oliveira or otherwise – of the amount of usable wood in MPB logs before and after kiln warming.

190. Instead, Dr. Oliveira merely *accepted as an assumption of his report* the predictable and unverifiable statements of Ministry officials that the grade of the logs did not change following the warming of the logs in the experiments.[284] These assessments of log grade were, of course, not from independent objective persons. Dr. Oliveira's methods, and his conclusions, are of no utility for this reason.

191. This unverifiable assumption is important because Dr. Oliveira concedes in his report that kiln warming in fact *increased* checking in MPB logs.[285] In his sample of 120 logs, he identified 69 instances of new checking.[286] Dr. Oliveira attempts to

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[282] R-11 ¶ 67.

[283] *See generally* R-2 (statement of executive of [ ], the company from which [ ]).

[284] R-11 ¶ 73.

[285] R-11 ¶ 72-73.

[286] R-11 ¶ 72-73.

minimize this by saying that 94 percent of the checks created by kiln-drying were less than two centimeters in depth. But this is exactly the problem. Prior to kiln warming and the December 2007 grading conventions, *small checks were expressly excluded* from the application of the 50/50 rule.[287] But BC changed the December 2007 grading conventions to allow small-scale checks to be used as a basis to exclude wood volume from logs and downgrade MPB timber.[288]

192. By accepting as an assumption that the grade of the logs did not change in his tests,[289] Dr. Oliveira never addressed BC's awareness that the practice of kiln warming resulted in a dramatic increase in the amount of Grade 4 timber. Indeed, [

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This results in yet more downgrading unrelated to the application of the 50/50 test grandfathered by the SLA.

4. Kiln Warming Circumvents The SLA

193. Canada's arguments that kiln warming does not result in grants or benefits to the industry rest on the flawed assumption that kiln warming of logs did not confer "a

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[287] C-50, CAN-008253-742 at CAN-008509; C-177, CAN-020826-70 at CAN-020852-57.

[288] C-84, CAN-010278-325 at CAN-010282; see also C-168, CAN-020736-69 at CAN-020764.

[289] R-11 ¶ 73.

[290] *See* Stmt. Case, ¶¶ 125 ([

]). In fact, no company contended that the inability to kiln dry logs resulted in legitimate Grade 4 reject logs being misclassified as Grade 2 sawlogs. Rather, equitable concerns related to the fact that companies engaged in kiln drying were paying less for the same sawlogs. *See, e.g.*, C-57, CAN-021032-34.

benefit" to forest products companies because it purportedly increased the accuracy of the companies' timber grading.[291] Canada also contends that, even if kiln warming conferred a benefit, the practice is grandfathered under the SLA as a mere mechanism for scaling or would be subject to the SLA's exception under Article XVII(2)(a) for certain timber pricing system changes.[292] Neither assertion is correct.

194. As demonstrated above, the 50/50 rule is the basis of the grandfathered reforms, and Canada admits by omission that it never determined whether kiln drying affects the application of the 50/50 rule. Canada's position is wrong that asking the question whether kiln warming accurately applies the 50/50 rule "mischaracterizes" the scaling regime.[293]

195. As Canada's own studies demonstrate, kiln drying can make small-scale checks visible, exacerbate existing checks, and even create new surface checks that could result in downgrading of kiln-warmed logs. This is consistent with the goal of the practice. As FPInnovations admits, the purpose of kiln drying is to maintain the same percentages of Grade 4 timber that are scaled in the fall, winter, and spring as there would be in the summer, thereby saving the industry millions of dollars in stumpage fees.[294] In short, Canada has failed to provide any credible evidence to support its claim that kiln warming improves accuracy, and it ignores the evidence demonstrating that this practice, in tandem with the Ministry's post-SLA focus on "checks," has led to dramatic increases

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[291] Stmt. Def. ¶¶ 249-51.

[292] SLA, art. XVII ¶ 2(a). Canada does not contend that kiln warming falls into the BC-specific exception for "fluctuations in stumpage charges that result from the operation of the MPS." SLA, art. XVII, ¶ 4(b).

[293] Stmt. Def. ¶ 249.

[294] C-149 at 10-11.

in the number of saw logs being graded as Grade 4 when they otherwise pass the 50/50 rule.

196. Canada's explanation that kiln warming only makes existing checks more visible, and that "when checks are visible, logs are graded accurately," does not hold water. But the larger point is that kiln warming is inconsistent with the 50/50 rule at the heart of the Interior grading rules because it does nothing to assist in the identification of lumber-suitable logs.

197. Grading rules and conventions strive to correlate visible defects (checks, stain, etc.) with eventual lumber suitability. A convention (which essentially kiln warming was) can only "improve accuracy" to the extent it improves the correlation between grade deductions for visible defects and actual lumber suitability. If kiln warming only makes existing checks visible (as Canada contends), this by no means translates into increased accuracy as far as distinguishing between logs that are suitable for lumber production and those that are not. In fact, the BC mill studies prove that even checks in grey-stage logs dead five or more years do not inhibit a log's suitability for lumber compared to green, unchecked, logs.

198. Forest industry expert Tom Beck echoes this, observing that small checks have little if any effect on the ability of a log to saw lumber.[295] For these reasons, even if Canada is correct that kiln warming only exposes pre-existing checks, Canada is wrong when it takes the next step and asserts that kiln warming increases grading accuracy. Canada certainly has not shown that this is so, and the evidence in this case says otherwise.

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[295] C-107 ¶ 50.

199. Canada further maintains that kiln warming is grandfathered by the SLA because "[n]either the Regulation nor the Scaling Manual . . . specifies any particular method for identifying checks," and "scalers are free to use any technique for identifying existing checks and applying the rules and calculations of the Scaling Manual."[296] If this were true, industry would not have had to request approval to kiln warm the timber in the first place, and the Ministry would not have had the misgivings it did when allowing the practice.[297]

200. Even if this were true, Canada would have to demonstrate that its practices actually implement the 50/50 rule and maintain or improve accuracy, not undermine it. Canada has not done this. Similarly, Canada has not addressed the fact that kiln warming deepens existing checks and creating new surface checks, exacerbating the misgrading of saw logs that otherwise pass the 50/50 rule.

201. Canada's related contention that kiln warming qualifies for the Article XVII(2)(a) exception because it is allegedly a "modification that maintains the extent to which stumpage charges reflect market conditions, including changes in timber quality" likewise rests upon no evidence and is merely an unsupported conclusion that this practice, in fact, maintains or improves accurate application of the 50/50 rule.

202. In sum, BC implemented the practice of kiln warming at the request of some members of industry without any evidence or support for the idea that the practice assisted in the correct grading of sawlogs. BC continued to allow the practice knowing that it resulted in the dramatic increase of the share of logs classified as Grade 4 and, to

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[296] Stmt. Def. ¶ 242.

[297] *See also* C-145, CAN-011549 (noting SLA-risk associated with allowing companies to kiln warm logs.).

date, it has never objectively demonstrated that kiln warming actually improves accuracy. By allowing this practice, BC has facilitated the misgrading of saw logs that otherwise pass the 50/50 rule.

C. BC Urged Use Of Bucking And New Sweep Formula To Facilitate Downgrading Of MPB Timber

203. As the United States demonstrated in the Statement of Case, the Ministry's 2008 decision to encourage bucking before scaling similarly has diverted sawlog timber to Grade 4 in a manner that is inconsistent with the 50/50 rule.[298] Canada contends that the United States has not identified any change in policy or any change in practice associated with bucking, and have not identified any change that could have resulted in misgrading sawlogs as Grade 4.[299] Canada's contentions, again, are without merit.

1. BC Implemented A New Bucking Policy

204. As discussed above, certain BC operators obtained a significant increase in the amount of sawlogs downgraded to grade 4 as the result of kiln warming. Because not all operators had the option of kiln warming, BC developed its new bucking policy during its efforts to provide non-kiln sites with a scaling method that would produce results equivalent to those experienced at kiln sites for purposes of identifying checks. The Ministry and the industry [

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[298] Stmt. Case ¶¶ 135-40.

[299] Stmt. Def. ¶ 210.

[300] C-160, CAN-011959-62, at CAN-011960. The evidence also indicates that [

] " C-126, CAN-054408-10, at CAN-054410.

205. Because Minister Bell [

] [301]

206. Through ISAC, the Ministry and the forest industry [

] [302] Ultimately, the Ministry decided to pursue the option of encouraging the increased use of bucking.[303]

207. In a November 13, 2008 memorandum, the Ministry announced the new policy of actively encouraging bucking at scale sites, indicating in the subject line that the memorandum was "Follow up to The Honourable Pat Bell's Request."[304] Canada rejects any reliance upon the November 13, 2008 memorandum, and attempts to dismiss the Ministry memorandum as just "another administrative communication."[305] According to Canada, the Ministry memorandum was merely "a request to develop a policy proposal" that was never developed or implemented.[306] The evidence does not support Canada's assertion.

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[301] C-161, CAN-028695-97, at CAN-028696; *see also* C-146, CAN-028699-701.

[302] C-161, CAN-028695-97 at CAN-028696.

[303] C-162, CAN-011964-65 at CAN-011964.

[304] C-83, CAN-011867-1868 at CAN-011867.

[305] Stmt. Def. ¶ 210.

[306] Stmt. Def. ¶ 210 (citing R-3 ¶ 106); *id.* ¶¶ 212-213.

208. The November 2008 Ministry memorandum provides that "enhanced scaling practices" were to be developed, sets forth a December 1, 2008 *implementation* deadline, and calls upon ISAC to "develop the criteria, process and controls to accommodate the bucking."[307] The December 1, 2008 implementation deadline notwithstanding, the Ministry acknowledged that ISAC would require additional time beyond that date "to identify, and field test any new lumber recovery indicators."[308] Furthermore, the November 2008 memorandum characterizes the bucking policy as "the *new* bucking practices" and "the *new* process to facilitate the bucking of logs at scale sites."[309] Thus, by its very terms, the November 2008 memorandum introduced a new policy.

209. Then, BC implemented the new policy. In a February 2009 background paper and legal opinion regarding scaling alternatives to kiln warming, [

] [310] — that is, the November 2008 Ministry memorandum upon which the United States relies.

210. Thus, Canada cannot support its denial that, in November 2008, BC introduced and implemented a new policy encouraging bucking prior to scaling.

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[307] C-83, CAN-011867-011868 at CAN-011867.

[308] C-83, CAN-011867-011868 at CAN-011867.

[309] C-83, CAN-011867-011868, at CAN-011867 (emphasis added).

[310] C-161, CAN-028695-698, at CAN-028697.

2. The New Bucking Policy Led To Misgrading

211. As for Canada's contention that BC's new policy of encouraging bucking did not give rise to misgrading,[311] again, the evidence demonstrates otherwise. Canada fails to refute the demonstration in the Statement of Case that BC encouraged bucking despite the reality that this practice was being abused to misgrade sawlogs as Grade 4 logs.

212. The bucking of logs less than five meters in length creates enormous risk of misgrading because scalers applied a convention in which they assumed that defects accounted for half of the log length.[312] By doing so, the remaining log length fell below 2.5 meters, which was the minimum sawlog length.[313] Thus, when scalers applied this convention to logs less than five meters in length, a significant proportion of those logs were scaled as Grade 4.[314] ISAC was aware that the "{m}ajority of all scalers scale by convention" in the absence of external indicators.[315]

213. At the same time that BC was considering bucking as an option for non-kiln sites, it was well aware of the problem in bucking timber less than five meters in length and the downward effect it had on stumpage fees. In a June 2008 internal audit of

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[311] Stmt. Def., ¶ 210.

[312] C-163, CAN-012173-74, at CAN-012174; C-87, CAN-007362-007371 at CAN-007368.

[313] C-163, CAN-012173-74, at CAN-012174; C-87, CAN-007362, at CAN-007368; *see also* C-50, CAN-008253-008742, at CAN-008496 (2007 Scaling Manual § 8.6.8); C-164, CAN-012410-11 at CAN-012411.

[314] C-163, CAN-012173-74, at CAN-012174; C-87, CAN-007362, at CAN-007368.

[315] C-165, CAN-007050-55, at CAN-007053; *see also* C-164, CAN-012410-11, at CAN-012411 (stating that use of the convention related to logs less than five meters is "wide-spread").

the Ministry, the auditors recommended that [

]"[316]

214. Before introducing the new bucking policy in late 2008, ISAC members extensively discussed the bucking practices that were leading to an increase in grading sawlogs less than five meters in length as Grade 4.[317] At that juncture, the ISAC members believed that scaler training might be one way to "solve" the "problem."[318]

215. Despite its knowledge of inaccurate grading based on log lengths, BC introduced its new policy of encouraging bucking before scaling. After the new policy was introduced, in a February 2009 email, the Ministry recognized that bucking in practice did not comport with the 50/50 rule:

> It's time to end this length game. . . . Grade rules should treat all lengths equally. Is there 50% lumber or not? This is especially true when dealing with checks. Checks differ from rot because some lumber is recovered from checked logs. . . . . *The idea that the portion of the log that is shorter than 2.5 m will cut no lumber is ridiculous. Is there 50% lumber in this log or not?* [319]

216. Furthermore, during a September 2009 scaling supervisors conference call, [

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[316] C-166, CAN-054983-55001, at CAN-054993.

[317] C-87, CAN-007362-007371, at CAN-007368.

[318] C-87, CAN-007362, at CAN-007368.

[319] C-167, CAN-012239-40 , at CAN-012239 (emphasis added); *see also* C-168, CAN-020736-69, at CAN-020768 (" [

]").

] [320] The scaling supervisors acknowledged that [

] [321]

217. In March 2011 meeting minutes for a Southern Area scaling conference call, [

] [322] Despite its knowledge that industry was using bucking to divert more timber to Grade 4, the Ministry introduced a policy of promoting the practice of bucking logs prior to scaling.

218. To attempt to refute the evidence that the new bucking policy did not comport with the 50/50 rule and has created a risk that the industry will use the policy to downgrade lumber-suitable logs, Canada relies on James Crover, who contends that the HBS data do not support this contention.[323] But neither Canada nor Mr. Crover has provided the HBS data on which Mr. Crover relies for his log length conclusions, so the Tribunal has no basis on which to assess the accuracy of his assertions. For example, assuming log lengths are rounded, logs that were bucked to just under five meters to get the benefit of the grading deduction would not be counted in his figures for "pine logs less than 5m" (*e.g.*, a log cut to 4.98 meters might be reported as a five meter log, and not be counted as a "log less than 5m").[324] For this reason, Mr. Crover's figures are both questionable and unverified, and Canada has failed to rebut the demonstration that

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[320] C-86, CAN-026568, at CAN-026568.

[321] C-86, CAN-026568, at CAN-026568.

[322] C-169, CAN-010604-05, at CAN-010605.

[323] Stmt. Def. ¶ 214 (citing R-3 ¶ 106).

[324] R-3 ¶107 (Fig. 3).

bucking has resulted in increased volumes of Grade 4 logs that otherwise met the 50/50 rule.

3. The New Sweep Policy Led To Misgrading

219. As also demonstrated in the Statement of Case, in September 2007, BC introduced a new sweep formula, which, in combination with the new bucking policy, resulted in even more logs under five meters being classified as Grade 4 without regard to whether such logs actually meet the 50/50 rule.[325] In response, Canada contends that sweep has very little effect on the scaling of lodgepole pine because it is a very straight species of tree that is not prone to sweep, and that the scaling rules regarding the assessment of sweep in logs of different lengths did not change.[326] Yet again, Canada's contentions are without merit.

220. The Scaling Manual defines "sweep" as "a bowlike bend in the trunk of a tree."[327] To support its claim that sweep has very little effect on the grading of lodgepole pine because it is not prone to sweep, Canada relies upon the witness statements of Katherine Lewis and James Crover,[328] neither of whom cites to any studies or other authority, instead merely relying on the pine's name.[329] Furthermore, Ms. Lewis's statement that lodgepole pine is one of the conifer species "*least* prone to sweep" does not foreclose the impact of sweep on this species.[330] Indeed, none of the contemporaneous documents reflecting consideration of the introduction of the sweep

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[325] Stmt. Case ¶¶ 138-40.

[326] Stmt. Def. ¶ 215.

[327] C-50, CAN-008253, at CAN-008446 (2007 Scaling Manual § 8.3.1.3).

[328] Stmt. Def. ¶ 215 (citing R-10 ¶ 79; R-3 ¶ 108).

[329] Stmt. Def., ¶ 215 (citing R-10 ¶ 79; R-3 ¶ 108).

[330] R-10 ¶ 79 (emphasis added).

formula indicate that lodgepole pine was immune from sweep such that the formula would have no effect on it. In fact, its name notwithstanding, lodgepole pine is susceptible to sweep. For instance, research on lodgepole pine yields in BC indicates that sweep does in fact affect this form of pine.[331]

221. Although Canada contends that the new sweep formula did not constitute a change, as early as January 31, 2007, ISAC considered a revised method for measuring sweep to avoid the erroneous downgrading of logs to Grade 4.[332] In May 2007, [

]333

222. According to the June 2007 ISAC meeting minutes, [

]334 At that meeting, [

]"335

223. The September 12, 2007 ISAC and CSAC joint meeting minutes indicate [

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331 C-170 (*Lumber Yields from Sweepy Lodgepole Pine*, The Forestry Chronicle (April 1980)), http://pubs.cif-ifc.org/doi/pdf/10.5558/tfc56066-2/.

332 C-79, CAN-007177, at CAN-007181.

333 C-171, CAN-011259-61.

334 C-78, CAN-007196, at CAN-007199, CAN-007207-08 (Appendix C, Sweep Proposal, May 2007).

335 C-78, CAN-007196, at CAN-007199; *see also* C-49, CAN-011306-329, at CAN-011308, CAN-011311-319.

] "[336] ISAC and CSAC concluded that [

] .[337]

224. During the September 27, 2007 SIFR scaling conference call, [

] .[338]

225. The October 21, 2007 ISAC meeting minutes reflect that, [

].[339]

226. In an October 26, 2007 email, the Ministry circulated an approved technical direction paper on the assessment of sweep for BC, and indicated that "{t}he formulas and methodology for calculating sweep should be implemented immediately."[340] Moreover, the email indicates that the paper would be part of the next amendment to the Scaling Manual planned for May 1, 2008.[341] The Ministry also advised recipients to advise their scaling staff of "this change" and distribute it to all scalers.[342]

227. In an October 29, 2007 letter addressed to all scalers, BC stated that "{t}he purpose of this letter is to advise you of the *new* method by which to determine a

[336] C-80, CAN-051098-051292, at CAN-051101.

[337] C-80, CAN-051098-051292, at CAN-051101.

[338] C-52, CAN-010637-010644, at CAN-010638.

[339] C-54, CAN-007292-007295, at CAN-007293.

[340] C-172, CAN-009416-21 at CAN-009416.

[341] C-172, CAN-009416-21 at CAN-0094166.

[342] C-172, CAN-009416-21 at CAN-0094166.

grade reduction calculation for sweep."[343] The Ministry's letter further provides that "{t}he formulas and methodology for calculating grade reduction for sweep should be implemented immediately in your scaling practices," and that "{t}his methodology will also be added to the Scaling Manual in the next formal amendment."[344]

228. Thus, Canada fails to support its claim that the new sweep formula did not constitute a change to BC's previous practice concerning sweep. Even Canada's own witness disagrees with Canada's claim. Mr. Crover states that "{b}efore adoption of the new sweep formulae in 2008, there was no explicit guidance in the Scaling Manual for calculating sweep other than that scalers should consider logs affected by sweep in 2.5 m segments."[345] In sum, Canada fails to establish its claim that sweep is irrelevant to lodgepole pine and that the Ministry did not introduce a change in its scaling practices by implementing the new sweep formula.

D. BC Made Changes To The Scaling Manual To Facilitate Downgrading Of MPB Timber

229. The United States previously established that BC's December 2007 adoption of new grading conventions diverted more lumber-quality MPB timber into Grade 4, resulting in a benefit to lumber producers.[346] The United States showed that the new grading conventions did not seek to enforce the 50/50 rule, but rather allowed scalers to downgrade MPB timber based on new conventions for "checks" without ever determining or testing whether the checks in a particular MPB log actually prevented it

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[343] C-173, CAN-009467 (emphasis added) (attachment not included in Canada's production).

[344] C-173, CAN-009467.

[345] R-3 ¶ 109.

[346] Stmt. Case ¶¶ 108-13.

from meeting the 50/50 rule.[347] Canada claims in response that its new conventions "implement{t} the 50/50 rule," but fails to show that the changes adhere to the 50/50 rule, much less increase accuracy in implementing the rule.[348]

230. The timber grading system reformed in April 2006 and grandfathered by the SLA did not include the December 2007 conventions. The grandfathered system graded all logs against the same criteria and specifically forbade scalers from considering checks that were less than two centimeters in depth for grading purposes.[349] By 2007, however, BC was focusing heavily on checks in MPB logs, and the December 2007 conventions made several changes that significantly departed from the April 2006 grading rules, allowing more MPB timber to be downgraded to Grade 4.

231. As demonstrated in the Statement of Case, and acknowledged by Canada's Statement of Defence, the December 2007 grading conventions apply *only* to timber that displayed blue stain and beetle galleries, in other words, MPB timber.[350] Under the December 2007 conventions, the scaler simply measures the log diameter, estimates the percentage of bark coverage on an MPB log, counts the number of checks, and then refers to a chart to determine if the entire section is downgraded.[351] By contrast, under the grandfathered system, the scaler assesses every log under the grading standards in the Scaling Manual, assessing each potential defect individually to determine its effect on

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[347] Stmt. Case ¶¶ 111-12.

[348] Stmt. Def. ¶ 220.

[349] R-19 at 6.4.4 ("Surface checks 2cm or less in depth are not entered in the grade reduction calculation."); 6.6.6.4.2 ("Outside surface checks 2 cm or less in depth are not accounted for in the grade reduction.").

[350] Stmt. Case ¶¶ 111-12; Stmt. Def. ¶ 222 (Figure 32).

[351] C-82, CAN-011400-402 at CAN-011402; C-84, CAN-010278-325 at CAN-010289 C-48; CAN-007998-8174 at CAN-008123.

lumber-suitability, regardless of whether it has been affected by MPB.[352] Therefore, the December 2007 conventions use the number of checks in MPB timber as a proxy for quality, without any determination of whether the defects actually render the log incapable of meeting the 50/50 rule. This practice has diverted more lumber-quality MPB timber to Grade 4 because the deduction is assessed without regard to each scaling log's individual characteristics and lumber-suitability.[353]

232. According to Canada, the December 2007 conventions implement the 50/50 rule because the volume occupied by a check is not available to manufacture lumber.[354] But, given that all timber can have checks, Canada has hardly justified new rules that apply only to MPB timber. There is no plausible reason suddenly to deduct checks differently in MPB timber. In fact, the grandfathered 2006 reforms were based on the very idea that MPB timber must be graded in the same manner as all other timber, based upon its suitability for lumber.[355] BC's 2007 adoption of grading conventions that apply only to MPB timber is neither part of nor consistent with the grandfathered system.

233. BC's sudden focus in 2007 on "checks" as determinative of grade for MPB logs was a significant departure from the grandfathered system, and one that greatly

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[352] C-48, CAN-007998-8174 at CAN-008131-32.

[353] The new conventions increase to an even greater extent the likelihood that MPB timber without bark will be downgraded. For example, an MPB log that is missing bark that is 16 cm in radius is downgraded if it has two checks or one spiral check that affects a single quadrant of the log. A log of the same size that is not missing bark, however, is downgraded if it has three checks or two spiral checks affecting more than two quadrants. This example, taken from the conventions, demonstrates there is an even greater likelihood that MPB timber missing bark is downgraded. *See* C-82, CAN-01140-402 at CAN-011402. As above, the scaler never calculates the actual volume affected by any defect on any MPB log before him or her.

[354] Stmt. Def. ¶ 223.

[355] C-22, CAN-00420; *see also* Stmt. Case ¶¶ 41-44.

benefitted lumber producers. In the December 2007 conventions, BC enacted several new rules regarding checks, all of which dramatically changed prior practice regarding them. First, BC implemented a new convention decreeing that "checks *must* be considered (and not ignored) . . . ."[356] Second, consistent with the new mandatory direction that checks "must" be considered for grading purposes, BC rescinded section in Chapter 9 of the Scaling Manual that previously had forbidden scalers from using surface checks that were two centimeters or less in depth as part of a grade reduction.[357] Now, for example, a thin black line visible at the log end and/or bole may be considered a check, even if it would not affect lumber recovery.[358] Third, BC implemented a new convention that allowed the scaler for the first time to treat a check that is visible at the end, but not visible on the surface, as running half the length of the log up to a maximum of 2.5 meters.[359] This has allowed BC producers to receive a grade reduction for the entire log segment if the log end exhibited checking; this would be 50 percent of a five meter log, a common log length. Fourth, BC enacted the "two-centimeter rule,"[360] which Canada says accounts for possible checking around the perimeter of a log.[361] All of these new conventions have combined to stack the deck heavily in favor of downgrading MPB logs to Grade 4, without ever considering whether the MPB log is suitable for lumber and meets the 50/50 rule.

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[356] C-84, CAN-010278-325 at CAN-010285 (emphasis added).

[357] C-84, CAN-010278-325 at CAN-010282.

[358] C-82, CAN-011400-02 at CAN-011402.

[359] C-84, CAN-010278-325 at CAN-010283.

[360] Stmt. Case ¶114.

[361] Stmt. Def. ¶227.

234. Canada's Statement of Defence was largely non-responsive to this basic concern. Canada attempted to justify its new conventions as necessary because of the difficulty in viewing checks in MPB timber,[362] but it failed to establish that a system based on counting checks in MPB timber is accurate, much less more accurate, in implementing the 50/50 rule than a system using the grading rules that apply to all other timber. It is particularly implausible that counting checks is more accurate if scalers cannot see checks in MPB timber, as Canada claims.

235. Canada also claimed that its conventions were tested, in effect, because they "reflect geometric calculations."[363] But the "geometric calculations" that go into grading are not developed in the abstract — they are designed to implement the 50/50 rule. Although Canada has repeatedly asserted that its conventions are "more accurate,"[364] it has failed to prove that use of a standard, untested deduction is more accurate than the use of actual measurements of checks in a particular log, and it never identified any evidence supporting its position. Moreover, Canada's assertion that the new conventions are tested is especially puzzling in light of its own documents, which admit that the conventions were not tested on any logs. As a Ministry document from 2008 states, the "scaling conventions were implemented over a tight time frame and were based on a data set that was never tested with 'real' logs."[365] Canada's own

[362] Stmt. Def. ¶¶ 218, 220

[363] Stmt. Def. ¶ 224.

[364] Stmt. Def. ¶¶ 220, 228, 233, 234.

[365] C-81, CAN-007343-56 at CAN-007354.

contemporaneous written record acknowledges that the conventions were not tested "against the Scaling Regulation definition of sawlog" (*i.e.*, the 50/50 rule).[366]

236. Furthermore, Canada failed to explain how this type of grading practice could possibly be more consistent. The new conventions, on their face, apply only to MPB timber and create inconsistent standards for MPB timber. Upon the enactment of the convention, an MPB log that is identically-sized and has comparable defects to a non-MPB log, may be downgraded while the non-MPB log may not be downgraded, because a different set of standards is applied to MPB timber. Thus, the application of this rule increases inconsistency by applying different rules to different logs. Thus, Canada's claims about consistency are clearly wrong. Instead, the conventions divert more MPB timber into Grade 4 without regard to the lumber suitability of that timber, thereby providing producers with a benefit.

237. At bottom, Canada maintains that the scaling rules that apply only to MPB timber are either grandfathered or exempted under the SLA.[367] But the new scaling conventions are not grandfathered because they did not exist as of July 1, 2006, nor are they exempted because they modify the assessment of checks in MPB timber in a manner that does not maintain or improve the extent to which stumpage charges reflect market conditions.[368] The 50/50 rule requires the scaler to determine what percentage of a log can be made into lumber and what percentage of that lumber will be merchantable. As discussed above, the December 2007 changes simply count checks in blue-stained logs without actually determining what portion of a particular log can produce

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[366] C-81, CAN-007343-56 at CAN-007354.

[367] Stmt. Def. ¶ 232.

[368] Stmt. Case ¶ 113.

merchantable lumber. The conventions do not reflect the 50/50 rule because the deduction attributed to a particular check may vary based on whether the log is an MPB log. For example, if the log is an MPB log, it may be downgraded upon exhibiting a single check, while an identical non-MPB log may not be downgraded under normal scaling principles. Accordingly, the conventions effectively depart from the 50/50 rule and are not grandfathered by the SLA.

238. The changes also do not maintain or improve the extent to which stumpage charges reflect market conditions. Canada has contended that the conventions allowed scalers to "more accurately and efficiently assess the quality of timber killed by the MPB."[369] But Canada has failed to prove that any purported difference in the "quality" of MPB wood is accounted for by downgrading for a flaw in MPB wood on a different basis from non-MPB wood exhibiting that same flaw. Under the grandfathered system, all timber, MPB or not, was to be graded based on the actual characteristics and usability for lumber of the log in front of the scaler, not by applying different standards to different logs and, even then, using estimations or charts that may contradict the actual lumber suitability of the log the scaler is assessing.[370] Thus, the changes that apply only to MPB timber do not maintain or improve the extent to which the pricing reflects market conditions, but instead increase the probability that MPB timber will be classified as Grade 4, even if it produces the required proportions of merchantable lumber.

239. Finally, Canada has particularly failed to justify the two-centimeter rule. Under the two-centimeter rule, if an MPB log is 10 centimeters in radius or more and missing bark, the scaler automatically deducts two centimeters from the radius as a grade

[369] Stmt. Def. ¶233.

[370] C-22, CAN-00420; *see also* Stmt. Case ¶¶ 41-43, 47-49.

reduction.[371] This automatic, initial deduction reduces the log's scaling volume by more than one-third; this, in turn, makes the log much more likely to be downgraded.[372] The deduction still applies – meaning that a third of the log's volume is treated as not suitable for lumber production – even if the log has no defects that would indicate that portion is, in fact, not suitable for lumber production. Canada's purported justification for the automatic deduction – "deducting the volume lost to shallow surface checking"[373] – is belied by the evidence and defies logic. Canada's documents make clear that surface checks are distinct from checks that are considered for grade deductions.[374] Thus, Canada's attempt to justify the deductions for "shallow surface checks" fails.[375]

240. In sum, Canada has not established that the MPB-only conventions and the new treatment of checks are more accurate and maintain or improve the extent to which the scaling conventions reflect market conditions. Canada has failed to prove that deducting for every check, even if it is just a visible black line, is more accurate in implementing the 50/50 rule. In fact, the opposite is true. As Tom Beck explains, small-scale surface checking does not prevent the manufacture of lumber.[376] For instance, if a log has small-scale checking, it can still be used to produce lumber that qualifies as Grade

[371] Stmt. Case ¶¶ 114-15 (citing C-48, CAN-007998-8174 at CAN-008131).

[372] Stmt. Case ¶¶ 115, 116, and n.173.

[373] Stmt. Def. ¶ 227.

[374] *See, e.g.*, R-19 at 6.4.4 ("Surface checks 2 cm or less in depth are not entered in the grade reduction calculation."); 6.6.6.4.2 ("Outside surface checks 2 cm or less in depth are not accounted for in the grade reduction."); *see also* C-81, CAN-007343-56 at CAN-007354 ("confusion between surface checking and grade deduction checks").

[375] Even assuming the truth of Canada's argument as to why the deduction is proper, there is no reason BC would then only deduct from the largest of logs, as smaller logs could also have the same hypothetical problem so Canada's *post-hoc* justification is implausible.

[376] C-107 ¶ 46.

2 or better.[377] Because BC began to deduct for all checks, even when the checking did not impact lumber recovery, BC was allowing volume deductions for checks that did not impact the log's ability to meet the 50/50 rule. Thus, it is *less* accurate to deduct for every check.

241. Similarly, deducting for small-scale checks could not possibly have maintained or improved the extent to which pricing reflected the market value of timber. The new treatment of checks has moved pricing away from the value of the timber, because logs could be downgraded for checking that did not affect its ability to produce merchantable lumber.[378]

242. The changed treatment of checks has provided a benefit to the industry, because industry was able downgrade logs by deducting checking that it previously could not have deducted.[379] Because more checks have been considered and assumed to run up to the length of the log segment, industry has been able to take larger grade reductions than it was allowed to take under the grandfathered system. The new treatment of checks have allowed industry to downgrade lumber-quality logs and has contributed to the increase in Grade 4 timber,[380] especially when combined with the MPB scaling convention discussed above and with the practice of kiln warming.[381] Industry has benefited because, under the new checks conventions, BC is selling more sawlog timber to industry at the Grade 4 price. The December 2007 conventions circumvent the SLA.

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[377] *Id.* ¶ 47

[378] *Id.* ¶ ¶ 49-52, Fig. 5.

[379] *Id.* ¶ ¶ 43, 45.

[380] Id. ¶ ¶ 43, 45, 52.

[381] *See generally* C-106.

E. BC Acquiesced To Misgrading

243. The United States previously demonstrated that BC was aware that scalers did not always adhere to the province's scaling guidelines and that BC's failure to apply and enforce its pricing and grading system allowed increasing amounts of timber to be assigned to Grade 4 without regard to the timber's lumber-suitability.[382] In response, Canada insists that BC has a "strong" compliance and enforcement regime and that it has enforced BC's scaling rules.[383] Canada's contention is not supported by the evidence.

244. As an initial matter, the United States does not contend that Canada has violated its "domestic legal requirements."[384] Thus, Canada's concerns about inappropriate procedures are misplaced. The United States contends only that BC's knowing failure to apply and enforce its grading system has allowed increasing amounts of timber to be misgraded as Grade 4, thereby providing a benefit to BC lumber producers.

245. Canada attempts to support its contention about its "strong" enforcement regime by merely reciting basic facts about its scaling system.[385] This approach is ineffective; although much of the substance of Canada's description is not inaccurate, Canada has not demonstrated that BC has done anything to correct or prevent its continuing sale of misgraded timber.[386] For example, Canada endeavors to sidestep the inherent conflicts of interest under which industry scalers operate by asserting that

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[382] Stmt. Case ¶¶ 144-50.

[383] Stmt. Def. ¶¶ 254-66.

[384] Stmt. Def. ¶ 255.

[385] Stmt. Def. ¶¶ 256-258.

[386] Stmt. Case ¶¶ 141-43.

"misconduct, cheating or deliberate misgrading . . . results" in loss of scaler licensing or other penalties.[387] Canada's citation, however, does not support this bold proclamation of mandatory enforcement. The citation is merely a statement that discretionary penalties are possible,[388] and the Forest Act also provides only for discretionary suspension or cancellation.[389] Thus, Canada's argument does not diminish the demonstration in the Statement of Case that BC has not exercised its ability and power to enforce its regulations, thus allowing the industry to assign increasing amounts of timber to Grade 4 without regard to that timber's lumber-suitability. Canada may have shown that it could enforce its regulations, but has not shown that it operates a "strong enforcement and compliance regime."

246. To support the contention that BC has allowed industry to misclassify timber, the United States also identified specific instances in which the BC government, aware that industry scalers violated scaling rules, failed to correct errors or otherwise enforce its rules.[390] Canada's attempt to dismiss these concrete examples as innuendo or recast them as instances of enforcement is unavailing. Canada has not argued that its scaling rules were followed or pointed to any evidence that it took action in any of the highlighted incidents. Instead, Canada contends that these examples are not misconduct

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[387] Stmt. Def. ¶ 259 (citing R-19, Scaling Manual (June 30, 2006); 11.5.6 at 11-35).

[388] *See* Stmt. Def. ¶ 259 n.406 (citing R-19, Scaling Manual (June 30, 2006) s 11.5.6 at 11-35 ("'where scalers fail to properly perform their duties'" the Chief Forester may cancel a scaling license; and that failure to perform in a 'capable and competent manner' could result in the suspension or cancellation of a scaler's authorization or appointment")).

[389] R-20, Forest Act, 1996 R.S.B.C. c. 157 § 6 (102).

[390] Stmt. Case ¶¶ 144-50.

or that no further response was necessary from the Ministry. This contention is belied by Canada's own documents.

247. As previously demonstrated, BC was aware that industry scalers were [ ][391] BC does not contest that it knew of these reports. In fact, the Ministry acknowledges that [ ] compromises scaler integrity.[392] Nonetheless, Canada attempts to dismiss the reports as "anecdotal" and contends that its decision to [ ] was an adequate response.[393] The minutes of the conference call, however, state that [ ][394] Thus, these were not just unverified stories; Ministry employees [ ] There is no evidence, then or now, that BC took any action to correct the [ ] or the associated underpayment of stumpage fees.

248. The United States also demonstrated that the Ministry was aware of the manipulation of sample scales by means of [ ][395] Canada's contention that the Ministry's discussion of this manipulation does not mean

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[391] Stmt. Case ¶ 145 (citing C-67, CAN-018817-18 at CAN-018818 ([ ]).

[392] Stmt. Def. ¶ 261.

[393] Stmt. Def. ¶ 261.

[394] C-67, CAN-018817-18 at CAN-018818.

[395] Stmt. Case ¶146 (citing C-71, CAN-026468-69 at CAN-026468).

the industry actually manipulated scaling results is implausible, and Canada has not cited any documents or other evidence in support of its position. Put simply, there is no logical reason that Ministry scaling supervisors would have discussed a very detailed, but only hypothetical, method to manipulate sample loads. Instead, it is far more likely that the Ministry was aware that sample loads were, in fact, manipulated in the manner described in the meeting minutes. Canada also argues that Ministry's discussion of the scaling oath was separate from the discussion of sample load manipulation.[396] If true, that means only that the Ministry took no action whatsoever in response to the manipulation of sample scales; it did not even indicate that it disapproved of such a practice.[397] There is no evidence that BC addressed the manipulation of sample scale results in this instance.

249. As yet another example, the United States showed that the industry, on occasion, did not apply the scaling guidelines correctly and that the Ministry took no action in response.[398] In this specific instance, industry scalers [

][399] Canada states that this example is only a disagreement about the interpretation of a scaling rule and that [

][400] Canada's explanation that this is an example of a "disagreement," misses the point: Canada has not identified any evidence, or even

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[396] Stmt. Def. ¶ 262.

[397] *See* C-71, CAN-026468-69 at CAN-026468.

[398] Stmt. Case ¶ 147.

[399] Stmt. Case ¶ 147 (citing C-73, CAN-010539-44 at CAN-010542 and CAN-010539 (Confidential)).

[400] Stmt. Def. ¶ 263. The United States agrees that [ ] *See* Stmt. Case ¶ 147.

argued, that BC took action to correct the previous misapplication of its grading guidelines, even though it knew industry scalers had incorrectly graded logs.

250. The United States also demonstrated that the Ministry was aware that [ ].[401] In response, Canada acknowledges that [ ] but then attempts to diminish this example of misgrading by calling it only a discussion about the interpretation of a grading rule.[402] Once again, Canada attempts to evade the heart of the matter: BC knew that a major lumber producer [ ] but took no action in response. The United States does not contend that BC should have "disciplined a lumber company for engaging its regulator in discussions{.}"[403] It contends instead that BC failed to respond when faced with the knowledge that [ ].In fact, it appears the Ministry was aware that, instead of being [ ][404] Canada has pointed to no evidence that BC adjusted the erroneous scaling results or stumpage fees, or took any other action in response to its knowledge that timber had been scaled incorrectly, and thus sold at a stumpage price far below its market value.

251. As a final example of BC's refusal to enforce its grading rules, the United States demonstrated that industry had [

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[401] Stmt. Case ¶ 148.

[402] Stmt. Def. ¶ 264.

[403] Stmt. Def. ¶ 264.

[404] C-74, CAN-042437-39 at CAN-042437.

] [405] Canada does not contest that this occurred, but argues that [

] [406] The documents specifically mention "[

]" in the plural, not singular.[407] Regardless of whether the incident was singular or chronic, the fact is, the Ministry received reports that [

].[408] Indeed, [

].[409] Nevertheless, the Ministry did not take any action to discipline the industry for its misbehavior and did not attempt to rectify any potential misgrading.

252. Given this, Canada's contention that it has a "strong" enforcement regime is belied by its own documents and these examples of BC's failure to meaningfully enforce its scaling rules. Canada's own documents show that BC was aware of instances of industry misgrading but took no action to correct these problems, despite having the ability to do so. In the above examples, BC knew that its scaling rules were not being applied correctly but allowed the industry's deviations to go uncorrected. Despite all of these instances of non-compliance, Canada has not identified a single corrective action it took or even a violation ticket it issued. Thus, the Ministry has known that BC's timber industry has, in practice, changed the scaling rules and requirements. In response, the

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[405] Stmt. Case ¶149.

[406] Stmt. Def. ¶ 265.

[407] C-77 CAN-011249-54 at CAN-011249; C-78 CAN-007196-213 at CAN-007201.

[408] C-78, CAN-007196-213 at CAN-007201; Stmt. Def. ¶ 265.

[409] C-77, CAN-011249-54 at CAN-011249; Forest Act, 1996 R.S.B.C. c. 157, § 12 (163.1, 163).

Ministry took no action to correct the industry's misgrading. As a result, BC sold misgraded timber at prices below that required by the scaling and pricing rules. Accordingly, BC provided a *de facto* benefit to BC lumber producers in breach of Article XVII of the SLA.

REMEDY

253. The parties agree that, as the United States explained in its Statement of Case, the SLA requires the Tribunal to make two further determinations if it finds Canada has breached the Agreement. First, the Tribunal is to identify a reasonable period of time, but no longer than 30 days, for Canada to cure its breach. Second, the Tribunal must determine compensatory adjustments to the Export Measures, adjustments to be imposed should Canada fail to cure its breach within the reasonable period of time.[410]

254. The United States explained that the breach in this case – the circumvention of the SLA through the sale of underpriced timber to Canada's softwood lumber industry – requires a remedy that (1) accounts for past, current, and future benefits provided to the Canadian industry in breach of the SLA; and (2) eliminates 100 percent of the benefits provided. Any remedy imposed by the Tribunal takes the form of adjustments to the Export Measures; that is, the imposition of volume restraints (sometimes called quotas) on Canadian softwood lumber exports to the United States, or increases in the export charges collected on those exports.

255. Consistent with the terms of the SLA, the United States has proposed remedies consisting of adjustments to the export charges collected on softwood lumber exports to the United States from British Columbia. The United States' proposed

[410] SLA, art. XIV ¶ 22.

remedies are based on the work of Dr. Neuberger, who estimated that Canada's breach resulted in $499 million in benefits to Canadian softwood lumber producers. To collect $499 million, an additional export charge of 30 percent (or 13.5 percent if the governments agree to extend the SLA for two years as permitted in the Agreement) must be assessed on British Columbia softwood lumber exports to the United States.

256. Canada responds by contending that it should not be required to remedy the breach by collecting export charges in the amount of the benefit it provided. Rather, it offers a reading of the Anti-circumvention provision that is contrary to the ordinary meaning of the Agreement.

257. Canada's interpretation of the provision is not only at odds with the ordinary meaning of the provisions, read in its context, it violates the object and purpose of the SLA and of the reason behind treating some types of circumventions differently from others.

I. The Anti-Circumvention Provision States That The Amount Of The Benefit Is The Amount By Which The Export Measures Are Offset

258. Canada misreads the Anti-circumvention provision so profoundly as to render a critical provision superfluous. In Canada's view, the provision requires that the remedy for any breach, even one that takes the form of a benefit by Canada to softwood lumber producers or exporters, must calculate the amount by which export measures are offset. Given the structure of Article XVII, Canada is wrong when it claims that Article XVII is breached only if a party takes an action that has the effect of "reducing or offsetting the Export Measures."[411] Article XVII is breached when a party takes an

[411] Stmt. Def. ¶ 285.

action that "circumvent[s] or offset[s] the commitments under the SLA."[412] Put differently, a party can breach Article XVII, and the non-breaching party is entitled to a remedy, even if the breach has no effect on the Export Measures.

259. The Anti-circumvention provision has two relevant parts, paragraphs one and two. Paragraph one states that:

> neither Party, including any authority of a Party, shall take action to circumvent or offset the commitments under the SLA 2006, including any action having the effect of reducing or offsetting the Export Measures or undermining the commitments set forth in Article V.

Paragraph two states in relevant part:

> Grants or other benefits that a Party, including any public authority of a Party, provides shall be considered to reduce or offset the Export Measures if they are provided on a *de jure* or a *de facto* basis to producers or exporters of Canadian Softwood Lumber Products.

260. What is clear from the text of Article XVII is the structure and order of precedence: a broad prohibition (circumvention of commitments in the SLA), followed by examples ("including any action having the effect of reducing or offsetting the Export Measures," or that undermines Article V), followed by an even more specific prohibition with respect to Canada (grants or other benefits to softwood lumber producers), followed by exceptions.

261. Specifically, paragraph one contemplates any manner of actions that could circumvent or offset the commitments under the SLA. An action could circumvent the SLA under paragraph one if it reduces or offsets the Export Measures. In that case, the Tribunal would determine whether and to what extent the Export Measures were offset

[412] SLA, art. XVII ¶ 1.

before determining breach. But a circumvention under paragraph one need not be an action that reduces or offsets the Export Measures.

262. A party can circumvent the SLA *without* taking an action that reduces or offsets the Export Measures — for example, if the United States had failed to properly effectuate Article IV, requiring it to refund billions in cash deposits paid by softwood lumber exporters, the United States could potentially have been in breach of its commitments although the actions would have had no effect or even any connection to the Export Measures. Under paragraph one, a party can also circumvent the Agreement if it undermines the commitments set forth in Article V. In Article V, the United States promised not to impose certain of its domestic trade remedies against softwood lumber products from Canada. If the United States, for example, imposed an antidumping duty order on softwood lumber from Canada, the United States again, could hypothetically be in breach of its commitments in Article V, depending upon the circumstances. If the Anti-circumvention provision ended with paragraph one, Canada might be correct that a determination of breach would contemplate an assessment of the amount by which the breach offset or reduced the Export Measures, if the circumvention at issue were a reduction or offset of the Export Measures.

263. The provision continues to address a specific type of circumvention — one that is *presumed* to offset the Export Measures because of its very nature. Paragraph two addresses circumventions that provide a grant or benefit given by a party to producers or exporters of Canadian softwood lumber products.

> Grants or other benefits that a Party, including any public authority of a Party, provides shall be considered to reduce or offset the Export Measures if they are provided on a *de*

jure or a *de facto* basis to producer or exporters of Canadian Softwood Lumber Products.

264. The paragraph is clear that when a party has provided such a grant or benefit, there is no need to quantify the amount by which the grant or benefit reduces or offsets the Export Measures because the grant or benefit *automatically and without further calculation* reduces or offsets the Export Measures. The ordinary meaning of the text is clear — if a party provides a grant to softwood lumber producers or exporters, the grant offsets the Export Measures. No further analysis regarding the extent to which or manner of offset should be undertaken.

265. Yet Canada ignores this specific direction, contending instead that even when it provides such grants or benefits, the Tribunal *still* must determine the amount by which the grant or benefit reduces or offsets the Export Measures and then determine the effect that the reduction or offset has upon the Export Measures. If this were the case, there would be no need whatsoever for the first part of paragraph two. That is, grants or benefits would fall squarely within paragraph one as actions that "hav[e] the effect of reducing or offsetting the Export Measures." Instead, the parties agreed that a limited subset of circumventions would operate differently. They would be circumventions based simply upon their very existence. Canada's interpretation reads out the first sentence of paragraph two entirely and by extension, the parties' agreement regarding this special type of circumvention. Tribunals have long recognized the "principle of effectiveness," that holds, among other things, that treaties must be interpreted so as to give meaning to all provisions.[413] Canada's interpretation violates this basic principle.

[413] *See, e.g.*, CA-16, Japan-Taxes on Alcoholic Beverages, AB-1996-2, WT/DS8, 10,11/AB/R, ¶ 6.17 n.89 (1996).

Moreover, there is nothing in the text of the SLA suggesting that the parties agreed to the cumbersome economics exercise, implicit in Canada's argument, of translating a proven prohibited benefit into an effect on the Export Measures, then designing adjustments to the Export Measures to counteract that effect.

266. As such, although Canada's "three-step" procedure for determining remedy could potentially be appropriate for a generic circumvention under paragraph one, it is inappropriate for a circumvention under paragraph two. Canada proposes that for the breach *in this case*, the Tribunal determine the amount of the benefit provided, the extent to which the benefit offsets the Export Measures, and compensatory adjustments to compensate for the "effect." In this case, the Tribunal does not determine the extent to which the benefit offsets the Export Measures because the Agreement has already determined that the *benefit itself* (however that benefit is calculated) reduces or offsets the Export Measures.

267. As for the third step in Canada's process, Canada nearly gets it right until the end. Canada is correct that the SLA directs the Tribunal to determine compensatory adjustments to the Export Measures "in an amount that remedies the breach," *not* in an amount that "compensates for the effect." Specifically, Article XIV states that if the Tribunal finds a breach, it identifies a reasonable period of time to cure the breach and determines "appropriate adjustments to the Export Measures to compensate for the breach . . . ."[414] Paragraph 23 of the same Article then explains that the adjustments "shall be in an amount that remedies the breach." The SLA does not, as Canada

[414] SLA, art. XIV, 22(a) and (b).

contends, state that the adjustments shall be in an amount that remedies the "effect" of the breach.

268. Canada is correct that any remedy must be tied to the breach, and here the benefit itself is the breach or circumvention of the Agreement.[415] But Canada's misreading of paragraph two infects its understanding of the Tribunal's task when there is a breach under paragraph two. In Canada's view, the breach here is "the reduction of or offset of the Export Measures resulting from the benefit, not the provision of the benefit itself."[416] This turns paragraph two into paragraph one. The breach here is *not* the reduction or offset of the Export Measures resulting from the benefit. Rather, *the breach is the benefit* (that is, the breach is equal to the benefit) provided by BC to softwood lumber exporters and producers. We know this because paragraph two of the Anti-circumvention provision tells us that such benefits are already presumed to offset the Export Measures so no calculation or even consideration of that offset should be undertaken. A benefit has been put into the pockets of Canadian lumber producers — producers who pay export charges. To wipe out the consequences of the breach, and re-establish a level playing field, the amount of their refund must be charged in the form of export charges.

269. This is the only interpretation that makes sense given the object and purpose of the SLA. Both prior Tribunals have determined that the object and purpose of the SLA is the operation of the Export Measures—the self-governed system by which Canada would collect export charges from its own lumber producers and exporters. The Anti-circumvention provision explains that when Canada provides a grant or benefit to

[415] Stmt. Def. ¶ 283.

[416] Stmt. Def. ¶ 285.

those producers, Canada absolutely and without further question or analysis, offsets the Export Measures (unless the benefit falls into an exception). Put simply, Canada cannot collect charges only to return them by some other means. It is for this reason that the Agreement specifies that grants or other benefits inherently constitute circumventions, whereas another type of circumvention would be treated differently. It only makes sense then that the remedy for a direct grant or benefit would be to charge that amount in the very export charge that was offset.

270. It is this pervasive misreading of the text and the SLA's object and purpose, that causes Canada to misapply the reasoning from the prior Awards resulting from previous arbitrations under this Agreement. Canada is of course correct that the Tribunal in *United States v. Canada*, LCIA No. 81010, did not agree with the interpretation of the Anti-circumvention provision advanced by the United States.[417] And the United States continues to respectfully disagree with the Tribunal's determination on the provision's interpretation.

271. But even assuming that the United States did agree, the Tribunal's determination of remedy in LCIA No. 81010 was explicitly tied and limited to the nature of the breach in that case, and was not based upon a categorical rejection of the interpretation of the provision advanced by the United States. In fact, the Tribunal found that the remedy sought by the United States in that case would have *overcompensated* for the breach.

272. In that case, the breach took a different form from the breach here. In that case, Canada, among other things, provided things such as loan guarantees to its

[417] Stmt. Def. ¶ 287.

softwood lumber producers. Quantifying the benefit conferred by a loan guarantee is quite different from quantifying the benefit conferred by underselling timber. Although both are types of subsidies, a loan guarantee has a far more attenuated relationship to the Export Measures. If Canada allows a company to borrow money buy backing a particular loan, it is admittedly difficult to determine precisely how the producer has benefitted.

273. The Tribunal was quite clear in that case, that the remedy should "reestablish the level playing field."[418] The Tribunal then noted that, because the remedy must take the form of compensatory adjustments to the Export Measures, the Tribunal retained a certain amount of discretion to fashion an appropriate remedy.[419] It found that "nothing in th[e] provision suggests that the reduction or offset will *necessarily* be in the amount of the benefits provided. Whether this is the case is a matter that needs to be assessed in the light of the circumstances of each case."[420] Viewing the benefit as equal to the amount of Export Measure offset, *in that case*, could, in the Tribunal's view, have led to an overcollection.[421] Again, the United States respectfully disagrees with the rationale leading the Tribunal to determine that it should perform any calculation of the offset, nevertheless, the Award stands for the proposition that the facts before the Tribunal were unique.

274. When BC underprices timber, the action directly offsets the Export Measures. In BC, Canada collects export charges from lumber producers and exporters.

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[418] CA-6 ¶ 352.

[419] *Id.* ¶ 346.

[420] CA-6 ¶ 347 (emphasis added).

[421] CA-6 ¶ 349.

By underpricing timber to those same lumber producers and exporters, BC is returning the Export Charges in the amount of the difference between what the timber should have sold for, and the C$0.25 that the timber actually sold for. In other words, if the remedy subtracts the amount Canada did charge, from the amount Canada should have charged, it arrives at the exact and direct amount that BC has offset the Export Measures because it is the exact amount BC has given back to the entities that paid the export charges in the first place.

275. Here, the benefit is much more like, and indeed even more direct, than the benefit in *United States v. Canada*, LCIA 7941. In that proceeding, Canada failed to make a particular adjustment in a timely manner, causing certain exporting regions to overexport above what was allowed by the Agreement. The exporters who overexported received a benefit from being incorrectly permitted to overexport. The amount of the overage was calculated and converted to dollars and applied as an export charge, in accordance with the SLA's requirement that remedies take the form of adjustments to the export measures.

276. Nothing about the Award on Remedy in that case should be read as conflicting with the Tribunal's Award in LCIA 81010. Both Tribunals considered the particular nature of the breach and determined compensatory adjustments in an amount that remedied the breaches found. Because the nature of the 81010 breach did not easily lend itself to the approach in LCIA 7941, the Tribunal chose a remedy that accounted for the unique features of the breach in that case – features that are not remotely shared by the breach in this case or in LCIA 7941. But, as in LCIA 7941, where the Tribunal

required the remedy to "wipe out the consequences of the breach,"[422] the Tribunal in LCIA 81010 agreed that the remedy must "reestablish" and "restore the level playing field initially established by the Export Measures."[423]

277. Indeed, both Tribunals viewed the object and purpose of the SLA similarly, focusing upon the Export Measures as the critical component. In LCIA 81010 Award, the Tribunal noted that the object and purpose of the SLA is "to maintain a level playing field between United States and Canadian producers," through the mechanism of the Export Measures.[424] In LCIA No. 7941 – a case about volume, not export charges – the Tribunal similarly held the Export Measures to be paramount, stating that the "subject matter of the SLA" was "the volume of exports of Softwood Lumber Products from Canada to the United States" — in other words, the subject matter of the SLA is the Export Measures.[425] Where, as here, export charges are effectively returned, Canada has circumvented the Agreement.

278. A remedy that takes back the exact amount of these returned charges makes sense not just because it is consistent with the ordinary meaning of the Anti-circumvention provision, but also because it comports with the object and purpose of the SLA. In the SLA the parties struck a very particular bargain. The United States would return nearly US$ 5 billion in cash deposits and agree to refrain from imposing certain trade remedies *in exchange* for Canada imposing Export Measures on its exporting regions. Included in the trade remedies the United States agreed to forgo was any

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[422] CA-5 ¶ 309.

[423] CA-6 ¶¶ 349, 352.

[424] CA-6 ¶ 354.

[425] CA-5 ¶ 301 (citing CA-4 ¶ 181).

application of domestic countervailing duty laws, by which the United States assesses a duty *in the amount of the subsidy* that the United States determines has been conferred upon an industry and that has benefited that industry. Any remedy that recouped any less than the amount of the benefit conferred would therefore undermine the object and purpose of the SLA (the Export Measures). The SLA itself admonishes that any action that reduces or offsets the Export Measures shall be presumed to be a circumvention, thus providing an incentive to Canada to refrain from providing benefits to its industry. A remedy scheme that fails to recover the amount of benefits provided, therefore, fails to account for this incentive and is inconsistent with the object and purpose of the SLA itself.

II. Canada's Attacks On Dr. Neuberger's Analysis Fall Short

279. In finally addressing the substance of the remedies proposed by the United States', Canada made a number of attacks on the expert economic work of Dr. Neuberger. Canada's technical criticisms of Dr. Neuberger are easily rebutted.

280. It is worth noting that nearly all of Canada's criticisms of Dr. Neuberger have emanated from the report of Canada's economist, Joseph Kalt.[426] Professor Kalt has served as an economist for Canada and its provinces for over 20 years, writing countless expert reports and providing testimony in numerous proceedings. This background is very much on display in his work in this case.

281. First, Canada has asserted that Dr. Neuberger's analysis is incomplete because he did not consider any possible reasons for the sudden rise in the share of Grade

[426] R-9.

4 timber in 2007 other that the spread of the MPB infestation.[427] This criticism is remarkable. Dr. Neuberger did not pull the MPB rationale out of thin air in order to engage in an intellectual exercise. Dating all the way back to the informal and formal consultations preceding this arbitration, Canada has consistently maintained that the sudden and sustained rise in Grade 4 timber was the singular result of the spread of the MPB in British Columbia.[428] To this day, Canada has offered no other explanation, and it devotes its Statement of Defence to its single argument that the MPB epidemic is the underlying cause of the Grade 4 increase. Canada cannot legitimately question Dr. Neuberger on this point.

282. Second, Canada has accused Dr. Neuberger of making several data errors. For example, Professor Kalt stated that Dr. Neuberger incorrectly included non-pine species and incorrectly selected forest districts in his analysis, masking the actual spread of the MPB.[429] Professor Kalt claimed that if Dr. Neuberger's analysis were "corrected," the data would reveal a correlation between MPB attack and the share of Grade 4.[430] Professor Kalt is incorrect.

283. Dr. Neuberger establishes in his rebuttal expert report that the proper inquiry includes the total harvest.[431] As Dr. Neuberger explains in his report, it would be error to omit non-lodge pole species of trees from the analysis. Whether Professor Kalt accepts it or not, other spruce-pine-fir species are used to make softwood lumber, they are

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[427] Stmt. Def. ¶ 303.

[428] *See, e.g.*, Resp. to U.S. Request for Arbitration ¶¶ 1-3, 29-33.

[429] Stmt. Def., ¶ 304, citing R-9 (Kalt Report) ¶ 128.

[430] R-9 at ¶¶ 123, 128.

[431] C-103 ¶¶ 42, 43, 47.

graded according to the Interior timber grading rules, and products from these species are subject to the SLA. Professor Kalt failed to show otherwise.

284. The larger point is that even if Professor Kalt were able to manipulate the data and create a set of assumptions that appear to show a correlation between MPB attack and the share Grade 4 timber, he still has not responded to the evidence that the MPB timber is being systematically misgraded. To be clear, Dr. Neuberger agrees that there may be a correlation between MPB attack and the share of Grade 4 timber. But in the case of Professor Kalt's analysis, it is a correlation without a cause.[432]

285. The record evidence in this case – from testing prior to the April 2006 grading rules to the mill tests from 2007 through 2009 – all shows that the vast majority of MPB timber should be graded Grade 1 or Grade 2, not Grade 4. Therefore, any correlation between MPB attack and Grade 4 timber is simply a correlation between MPB attack and misgrading. These are two sides of the same coin.

286. Canada further attacked Dr. Neuberger's use of the rise in lumber output per unit of wood (lumber recovery factor, or "LRF") over time to test Canada's claim that the spread of the MPB has led to a loss of lumber quality.[433] Notwithstanding this criticism, Canada further faulted Dr. Neuberger for not focusing on a "flattening," or leveling-off, in 2006 of the historic upward trend in LRF.[434] Professor Kalt seized upon this "flattening" of the LRF trend in his report to argue that this is evidence that industry is recovering less lumber from the MPB timber and, therefore, that timber must be of

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[432] C-103 ¶¶ 9, 14.

[433] Stmt. Def. ¶ 304, citing R-9 (Kalt Report) ¶¶ 83-96, 105-107.

[434] Stmt. Def. ¶ 304.

lower quality.[435] Professor Kalt's dual feelings toward LRF reveal his willingness to twist data that he initially rejects to generate "conclusions" favorable to Canada.

287. Professor Kalt uses non-public "Ministry data" to generate a graph showing a rise in LRF from BC mills over time.[436] The graph shows that the rise in LRF began to "flatten" in 2004, and remained flat until 2008 when it began to rise again. He then added to the same graph a line showing the rise in the share of MPB-killed pine in the BC Interior harvest over time. Looking at the two lines, Professor Kalt then declared that one is causally related to the other. This is sheer speculation on his part and it proves nothing.

288. As Dr. Neuberger explains in his rebuttal report, he has analyzed the LRF data and concluded that the "flattening trend" is not tied to the MPB epidemic at all.[437] Instead, the "flattening" of LRF in Interior BC is the result of decreased capital spending by sawmills and changes in mill practices that accompanied the simultaneous downturn in the lumber market.[438] Moreover, Interior LRF, according to Professor Kalt's own data, actually increased in 2009. This is a fact that Professor Kalt overlooked and it undercuts his argument.[439] Interior mills' use of MPB timber continued to increase in 2009; [440] if Professor Kalt's LRF theory were correct, the LRF would have continued to flatten or even declined.

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[435] R-9 ¶¶ 83-88.

[436] R-9 ¶ 83, Fig. 13. Canada never produced this LRF data in response to the U.S. request during disclosure. *See* PO-3 at Request 11(d).

[437] R-103, ¶¶ 60-69.

[438] *Id.*

[439] R-9 Fig. 13.

[440] R-7, App. A.

289. Canada also has charged that Dr. Neuberger "ignored" data supposedly showing a small decline in British Columbia lumber quality over time.[441] Dr. Neuberger explains in his rebuttal report that, although he did not have the data at the time of his original report,[442] there is little evidence in the data suggesting a positive relationship between the huge increase in Grade 4 timber and the small decreases in lumber quality.[443] Indeed, the small decreases in lumber quality are the logical result of the decline in lumber demand over the same period.[444]

290. Canada then alleged that Dr. Neuberger did not consider data supposedly showing an increase in the proportion of logs going to pulp mills, as opposed to sawmills.[445] This is also incorrect. The share of logs going to sawmills stayed essentially constant, with only a small decline from 2004 to 2009 (four percentage points over five years).[446] This small decline (which actually began in 2007) is readily explained by the steep decline in U.S. housing starts over the same period.[447] In other words, the drop in the share of logs going to sawmills was accompanied, not surprisingly,

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[441] Stmt. Def. ¶ 304.

[442] Canada failed to produce the lumber grade data during disclosure, notwithstanding the United States' specific request for this information. *See* PO3 at Request 11(d). But again, the data do not undercut Dr. Neuberger's conclusions in any way.

[443] C-103 ¶¶ 70-72.

[444] *See id.*

[445] Stmt. Def. ¶ 304.

[446] C-103 ¶ 75.

[447] *Id.*

by a drop in demand for lumber. There is no evidence supporting Canada's claim that the drop had anything to do with the fact that companies were harvesting more MPB timber.

291. Relying on the work of Professors Athey and Cramton, Canada also has claimed that Dr. Neuberger's benefit calculations are inaccurate because any benefit obtained through Grade 4 timber would be lost in the bid price at auction for the particular stand of timber.[448] In his rebuttal report, Dr. Neuberger addresses the so-called "bid effect," but concludes that any such effect is unlikely to eliminate the benefits obtained by lumber producers through the misgrading and underpricing of timber.[449]

292. According to Canada, Dr. Neuberger also made a number of calculation errors that affect his benefit estimates: (1) he did not consider that some of the Grade 4 timber was sold for more than $0.25 per cubic meter; (2) he considered the "share effect" and "AMP effect" separately, resulting in "double counting;" (3) his 2010 projections extrapolated from the data from the first half of 2010; and (4) his calculations assume that if the Grade 4 timber had been correctly graded, it would have been sold for the Grade 1/2 price.[450] Dr. Neuberger has addressed each of these supposed errors in his rebuttal report.[451]

293. And to attack to Dr. Neuberger's third benefit scenario, Canada has claimed that he should not have used the data from two mills as a benchmark to calculate

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[448] Stmt. Def. ¶ 307.

[449] C-103 ¶¶ 92-108.

[450] Stmt. Def. ¶¶ 308-311.

[451] C-103 ¶¶ 110-33.

the relationship between Grade 4 and grey-stage timber.[452] Dr. Neuberger had explained his rationale for this aspect of his calculations in his original report, and he reiterates it in his rebuttal report.[453] Dr. Neuberger selected samples for his calculations that were the most representative of typical BC mill log inputs.[454] There is no error. Canada failed to prove any.

294. Finally, in the course of his work, Dr. Neuberger has adjusted his benefit calculations to account for a partial "bid effect" and to correct an error related to the data provided by BC to the United States Trade Representative under the SLA.[455] He also updates his calculations to incorporate the most current data provided by BC for the last quarter of 2010 and the first quarter of 2011.[456]

295. With these adjustments, Dr. Neuberger presents his preferred method of calculating the benefits realized by softwood lumber producers as a result of the breach, and his calculations under two alternative scenarios. For his preferred remedy, which utilizes a base period of April 2006 – March 2007 against which the volume of misgraded timber is assessed, Dr. Neuberger has determined that Canada's breach has resulted in benefits (through March 2012) of C$303.6 million.[457] Depending on the period of time over which this amount is collected, the remedy amount should be collected by means of an additional export charge of 18.6 percent (if the SLA expires in October 2013) or 8.2

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[452] Stmt. Def. ¶ 314.

[453] C-103 ¶ 130.

[454] *Id.*

[455] C-103 ¶¶118-21, 124-25, 131.

[456] C-103 ¶ 119.

[457] C-103 ¶ 122.

percent (if the SLA is extended for two years as permitted in the Agreement) on softwood lumber exports to the United States.[458]

CONCLUSION

296. The United States respectfully requests that the Tribunal determine that Canada breached the SLA by selling underpriced timber in BC Interior timber. If the Tribunal finds Canada has breached the SLA, the United States respectfully requests that the Tribunal determine a reasonable period of time for Canada to cure the breach, and respectfully requests that the Tribunal also identify appropriate compensatory adjustments to the Export Measures that remedy the breach.

297. With respect to the cure period, the United States would accept that Canada be granted 30 days, the maximum amount of time permitted under the SLA, to cure its breach.

298. With respect to compensatory adjustments to the Export Measures, the United States respectfully requests the Tribunal to determine:

(1) An additional export charge of 18.6 percent, to be collected on softwood lumber exports from Interior BC until the current end date of the SLA in October 2013; or

(2) An additional export charge of 8.2 percent to be collected on softwood lumber exports from Interior BC, if the period of the SLA is extended for two years to October 2015; and

(3) The additional export charge on softwood lumber exports from Interior BC is to be applied until the amount of $ 303.6 million is collected in its entirety.

[458] C-103 ¶ 135.

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