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London Court of International Arbitration
Case No. 111790

FINAL AWARD

- NON-CONFIDENTIAL -

in the Arbitration

The United States of America

– Claimant –

vs.

Canada

– Respondent –

Arbitral Tribunal

Professor Albert Jan van den Berg, Co-Arbitrator
V.V. Veeder, Co-Arbitrator
Dr. Klaus Sachs, President

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The Tribunal regrets that Dr. John Taylor, one of the authors of an expert report submitted by Canada in this proceeding, passed away on 2 May 2012.

A. THE PARTIES

I. Claimant

1. The claimant in this proceeding is the United States of America,

hereinafter referred to as "**Claimant**".

2. Claimant's legal representatives in this proceeding are:

**Stuart F. Delery
Jeanne E. Davidson
Patricia M. McCarthy
Claudia Burke
Reginald T. Blades, Jr.
Gregg M. Schwind
Stephen C. Tosini
Katy M. Bartelma
Nelson R. Richards
Antonia R. Soares**

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Commercial Litigation Branch
Civil Division
PO Box 480
Ben Franklin Station
Washington, D.C. 20530
UNITED STATES OF AMERICA

II. Respondent

3. The respondent in this proceeding is Canada,

hereinafter referred to as "**Respondent**".

4. Respondent's legal representatives in this proceeding are:

**Sylvie Tabet
Michael Owen
Carrie Vanderveen**

Address: Trade Law Bureau
Government of Canada
Lester B. Pearson Building
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CANADA

John M. Townsend
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Eric S. Parnes
James H. Boykin

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Washington, D.C. 20005
UNITED STATES OF AMERICA

5. Claimant and Respondent are hereinafter referred to separately as a "**Party**" and collectively as the "**Parties**".

B. THE ARBITRAL TRIBUNAL

6. The Arbitral Tribunal is composed as follows:

- (i) **V.V. Veeder**
Essex Court Chambers
24 Lincoln's Inn Fields
London WC2A 3EG
UNITED KINGDOM

- nominated by Claimant -

- (ii) **Professor Dr. Albert Jan van den Berg**
Hanotiau & van den Berg
IT Tower, 9th Floor
480 Avenue Louise B9
1050 Brussels
BELGIUM

- nominated by Respondent -

- (iii) **Dr. Klaus Michael Sachs**
CMS Hasche Sigle
Nymphenburger Straße 12
80335 Munich
GERMANY

- jointly nominated by Mr. Veeder and
Professor van den Berg, and the Parties -

7. On 4 March 2011, the President of the London Court of International Arbitration (the “**LCIA**”) appointed V.V. Veeder, Professor Dr. Albert Jan van den Berg and Dr. Klaus Sachs to be the Tribunal in this arbitration, with Dr. Klaus Sachs presiding. Mr. Veeder had been nominated by Claimant, Professor van den Berg had been nominated by Respondent, and Mr. Veeder and Professor van den Berg had nominated Dr. Sachs as President of the Tribunal. The Parties, upon request, agreed that Dr. Sachs's nomination might be treated as a joint nomination made by the Parties, for purposes of Article F1.b of the Constitution of the LCIA Court.

C. SUMMARY OF THE PROCEEDINGS TO DATE

8. On 18 January 2011, the United States Department of Justice, on behalf of Claimant, filed a Request for Arbitration with the LCIA requesting arbitration of a dispute arising out of the Softwood Lumber Agreement between the Government of Canada and the Government of the United States of America dated 12 September 2006 (the “SLA”)¹.
9. By letter dated 17 February 2001, sent by e-mail to the LCIA on that date, Claimant nominated, as arbitrator, V.V. Veeder.
10. On 17 February 2011, Hughes Hubbard & Reed, on behalf of Respondent, sent by e-mail to the LCIA a Response to Request for Arbitration and nominated, as arbitrator, Professor Dr. Albert Jan van den Berg.
11. In an exchange of e-mails between the Parties and their nominees, the Parties offered, and their nominees accepted, an extension of time, to 2 March 2011, for their joint nomination of the President.
12. By e-mail of 1 March 2011, Mr. Veeder and Professor van den Berg advised the LCIA of their nomination of Dr. Klaus Sachs, as President of the Tribunal
13. Since Dr. Sachs is a Vice President of the LCIA Court, the Parties were asked whether they agreed that his nomination might be treated as a joint nomination made by the Parties, for the purposes of Article F1.b of the Constitution of the LCIA Court, which they did by e-mail to the LCIA of 1 March 2011.
14. On 11 March 2011, the Tribunal proposed an organizational conference to agree on a procedural calendar and the applicable procedural rules to be memorialized in Procedural Order No. 1 and requested the Parties' consent to appoint Dr. Nicolas Wiegand from the President's law firm to act as the Tribunal's assistant in this case.
15. On 11 April 2011, the organizational conference was held at the World Bank in Washington, D.C. On the same date, the Tribunal issued Procedural Order No. 1 (“PO-1”) providing, *inter alia*, for the calendar and timing of the proceedings and the appointment of Dr. Wiegand to act as Secretary to the Tribunal and Procedural Order

¹ Exhibits C-1, R-1.

- No. 2 (“**PO-2**”) setting forth the procedures for the designation and protection of confidential information.
16. By 14 April 2011, Claimant and Respondent each requested disclosure of documents from the other Party.
 17. On 27 May 2011, following an extensive exchange of correspondence, the Parties submitted their respective responses and objections to the production requests together with their respective applications to order production of documents to the Tribunal.
 18. On 6 June 2011, the Tribunal issued Procedural Order No. 3 (“**PO-3**”) deciding on the Parties' respective objections and applications for production of documents and ordering the Parties (i) to produce the documents as directed in the attached Redfern Schedules by 15 June 2011, subject to any extensions of time granted by the Tribunal, in particular where indicated in the Redfern Schedules, and (ii) to provide an index of the documents they disclose in these proceedings.
 19. On 8 June 2011, Respondent requested Claimant to provide parameters for the electronic search for documents responsive to Claimant's request 4(c), as directed by the Tribunal in PO-3.
 20. On 8 June 2011, Claimant provided search parameters with regard to its requests 2(a), 4(c) and 6(b).
 21. On 10 June 2011, Respondent clarified that it had not requested search parameters for Claimant's requests 2(a) and 6(b) and confirmed that it had already conducted the search and produced responsive documents to such requests. In addition, Respondent stated that it could not produce documents responsive to Claimant's requests 8(b)(1) and 9(b)(1) without undue burden and/or creating new sets of data. Respondent also asked whether Claimant would consent to an extension from the current scheduled production date of 15 June 2011 to 27 June 2011.
 22. On 11 June 2011, Claimant addressed the Tribunal with respect to Respondent's letter of 10 June 2011 and requested the Tribunal, with regard to Claimant's requests 8(b)(1) and 9(d)(1), to require Respondent to comply with PO-3 by producing "*the existing data in whatever form it is maintained.*" In addition, with regard to its requests 2(a), 4(c) and 6(b), Claimant alleged that it had complied with the Tribunal's directions to propose parameters for searches because Respondent had requested such parameters. Finally,

Claimant objected to Respondent's request for a twelve-day extension of time on grounds that such delay would be prejudicial to its experts' ability to timely produce analyses.

23. On 13 June 2011, Respondent submitted its comments as invited by the President of the Tribunal. Respondent requested that the Tribunal issue a ruling which would limit Claimant's search parameters for Claimant's request 4(c). Respondent requested the Tribunal to deny Claimant any relief with respect to Claimant's request 6(b). In addition, Respondent requested the Tribunal, with respect to Claimant's request 8(b)(1), to affirm its prior decision and deny Claimant's request on the grounds that Respondent was not required to create new sets of data and that if it was required to do so, this would create an unreasonable burden for Respondent. With respect to Claimant's request 9(d)(1), Respondent also requested that the Tribunal deny Claimant's request on the grounds that the documents did not exist. Finally, Respondent requested that the Tribunal grant an extension until 27 June 2011 to comply with the Tribunal's ruling.
24. On 14 June 2011, Claimant submitted further comments to the Tribunal, requesting that the Tribunal direct Canada to use the search parameters suggested by Claimant and to describe how it performed or intended to perform its electronic searches. With respect to Claimant's requests 8(b)(1) and 9(d)(1), Claimant reiterated its request that Canada be ordered to produce the data in the form it exists.
25. On 15 June 2011, the Parties produced the documents as ordered by the Tribunal.
26. On the same date, as invited by the President of the Tribunal by e-mail of 14 June 2011, Respondent replied and objected to Claimant's request.
27. On 16 June 2011, the Tribunal issued Procedural Order No. 4 (“**PO-4**”), deciding on the disputed issues regarding document production.
28. On 30 June 2011, Claimant, pursuant to paragraph 3.4 of PO-2, requested that the Tribunal authorize counsel for the Coalition for Fair Lumber Imports (CFLI) to sign Confidentiality Undertakings for purposes of access to materials designated confidential in this proceeding.
29. On 1 July 2011, the Tribunal granted Respondent until Friday, 8 July 2011, to submit its comments to Claimant's request.

30. On 8 July 2011, Respondent requested that the Tribunal reject Claimant's request on the grounds that Claimant must establish that such access is appropriate and must fully disclose the individuals' links to the U.S. softwood lumber industry.
31. On 11 July 2011, the Tribunal invited Claimant to make the requested disclosure as required by paragraph 3.4 of PO-2 by Wednesday, 13 July 2011, and also invited Respondent to comment on Claimant's disclosures by Friday, 15 July 2011.
32. On 13 July 2011, Claimant described CFLI's purpose to promote the fair trade of softwood lumber between the United States and other countries and the participation of the counsel concerned in the representation of CFLI.
33. On 15 July 2011, Respondent objected to Claimant's request on the grounds that there was no difference between CFLI's fair trade interest and its individual members' competitive interests.
34. On 20 July 2011, the Tribunal issued Procedural Order No. 5 (“**PO-5**”) authorizing Messrs. Andrew W. Kentz and David A. Yocis, partner and counsel, respectively, of the firm Picard Kentz & Rowe LLP, Washington, D.C. (PKR), as counsel for CFLI to sign Confidentiality Undertakings; further authorizing Mr. Brent L. Bartlett, as a non-lawyer professional retained by PKR, to sign a Confidentiality Undertaking; ordering Claimant to submit Confidentiality Undertakings signed by Messrs. Kentz, Yocis and Bartlett to the Tribunal and the LCIA; further ordering Claimant to submit the relevant confidentiality provisions of the retainer agreement between PKR and Mr. Bartlett and an undertaking of PKR to ensure Mr. Bartlett's compliance with the Confidentiality Undertaking as provided in Rule 5.3 of the District of Columbia Bar Rules of Professional Responsibility to the Tribunal and the LCIA; and finally ordering that Claimant submit such documents by Friday, 22 July 2011.
35. On 25 July 2011, Claimant submitted to the Tribunal and the LCIA signed Confidentiality Undertakings from Messrs. Andrew Kentz, David Yocis and Brent Bartlett as well as the signed Addendum to Mr. Bartlett's Retainer Agreement with Picard Kentz & Rose LLP, adding the relevant confidentiality and supervision provisions.
36. On 25 July 2011, Respondent requested that the Tribunal authorize the signing of Confidentiality Undertakings by counsel for the British Columbia Lumber Trade Council (BCLTC) and its main consultant, pursuant to paragraph 3.4 of PO-2.

Specifically, Respondent requested the Tribunal to authorize Messrs. Keith Mitchell, Q.C. and Robert McDonell, both of Farris, Vaughan, Wills & Murphy LLP (Farris) of Vancouver, British Columbia, and Messrs. Mark A. Moran and Matthew S. Yeo, of Steptoe & Johnson, LLP (Steptoe) of Washington, D.C., and one economic consultant, Mr. Robert Prins, of Robert Prins Consulting of Kamloops, British Columbia, to sign Confidentiality Undertakings.

37. On 26 July 2011, the Tribunal granted Claimant until Monday, 1 August 2011, to submit its comments to Respondent's request.
38. On 29 July 2011, Claimant responded that it did not object to Respondent's request but noted that there were deficiencies in such request, in particular regarding disclosure of links between BCLTC counsel and its consultant with the Canadian or U.S. softwood lumber industry and identification of the provision in the relevant British Columbia rules governing the responsibility of Farris for Mr. Prins in this matter.
39. Upon invitation by the Tribunal, on 4 August 2011, Respondent explained that, pursuant to his retainer agreement in connection with this arbitration, Mr. Prins operated under the supervision of both Steptoe and Farris; that Messrs. Moran and Yeo of Steptoe were both members of the District of Columbia Bar and therefore subject to Rule 5.3 of the District of Columbia Rules of Professional Conduct (the Rules); that Rule 5.3 of the Rules ensured that the conduct of non-lawyer professionals employed by a law firm governed by the Rules was consistent with the lawyers' professional obligations; and that therefore Mr. Prins's obligations under the Confidentiality Undertaking would be fully enforceable against Steptoe and the absence of a comparable rule in British Columbia was of no moment.
40. Further, Respondent confirmed that none of BCLTC's counsel or Mr. Prins acted for any Canadian or U.S. softwood lumber producer.
41. On 8 August 2011, the Arbitral Tribunal issued Procedural Order No. 6 ("**PO-6**" authorizing Messrs. Keith Mitchell, Q.C. and Robert McDonell of the firm Farris, Vaughan, Wills & Murphy LLP (Farris) of Vancouver, British Columbia, and Messrs. Mark A. Moran and Matthew S. Yeo of the firm Steptoe & Johnson, LLP (Steptoe) of Washington, D.C., to sign Confidentiality Undertakings; further authorizing Mr. Robert Prins, as a non-lawyer professional retained by Steptoe and Farris, to sign a Confidentiality Undertaking; ordering Respondent to submit Confidentiality Undertakings signed by Messrs. Mitchell, McDonell, Moran and Yeo to the Tribunal,

Claimant and the LCIA; further ordering Respondent to submit the relevant confidentiality provisions of the retainer agreement between Steptoe and Mr. Prins and cause Messrs. Moran, Yeo and Prins to execute and submit to the Tribunal, Claimant and the LCIA an addendum to their existing retainer agreement; and finally ordering that Respondent submit such documents by Monday, 15 August 2011.

42. On 9 August 2011, Claimant filed its Statement of Case (“SoC”) together with Exhibit C-1, Exhibit C-2 (Expert Witness Report of Jonathan A. Neuberger, Ph.D.), Exhibits C-3 to C-102 and authorities CA-1 to CA-8.
43. On 10 August 2011, Respondent submitted to the Tribunal, Claimant and the LCIA signed Confidentiality Undertakings from Messrs. Keith Mitchell, Robert J. McDonell, Mark A. Moran and Robert Prins as well as the Addendum to Mr. Prins's Retainer Agreement with Farris, Vaughan, Wills & Murphy LLP and Steptoe and Johnson LLP, adding the relevant confidentiality and supervision provisions to Mr. Prins's existing agreement, signed by Messrs. Moran and Prins. Respondent indicated that the Confidentiality Undertaking signed by Mr. Matthew Yeo would be sent shortly.
44. On 15 August 2011, in accordance with PO-2, the LCIA submitted Confidentiality Undertakings signed by the members of its staff involved in the administration of this arbitration.
45. On 17 August 2011, pursuant to PO-2, paragraphs 4.1 and 4.3, Claimant submitted its non-confidential SoC, along with a non-confidential version of its exhibit list. The list of authorities remained unchanged.
46. On 23 August 2011, Claimant submitted the non-confidential version of Exhibit C-2 to its SoC.
47. On 5 October 2011, Claimant requested the Tribunal to require Respondent (i) to make the requested Disclosure No. 10, namely to produce backup data for four British Columbus Mill Studies by Forestry Innovation Investment (“FII”); and (ii) to make the requested Disclosure No. 2(a), namely a presentation, a Paper/Appendix, a memo, a document and a report referenced in documents produced by Respondent; and to direct Respondent to provide the Tribunal with unredacted versions of the documents requested in Disclosures Nos. 6 and 10 in order to decide whether Respondent's redactions were proper, and whether Respondent's concerns could be addressed by designating the documents “Confidential” under PO-2.

48. After reviewing Respondent's response of 7 October 2011 to Claimant's letter of 5 October 2011, the Tribunal (i) accepted the fact that the requested backup data were not in Respondent's possession, custody or control and denied Claimant's request for Disclosure No. 10; (ii) accepted the fact that Respondent completed a good faith, reasonable and diligent search for the requested referenced documents and denied Claimant's request for Disclosure No. 2(a); and decided that the question as to whether the redactions were proper under the applicable legal impediments should be submitted to a confidentiality advisor pursuant to Article 9.3 of the 1999 IBA Rules. The Tribunal invited the Parties to jointly submit proposals for a confidentiality advisor and suggested terms of his or her appointment.
49. On 14 October 2011, the Parties jointly proposed that Professor John R. Crook be appointed confidentiality advisor and requested that the Tribunal prescribe certain procedures for the confidentiality advisor to follow.
50. On 19 October 2011, the Tribunal agreed with the Parties' joint proposal that Professor John R. Crook be appointed confidentiality advisor. The Tribunal also approved the procedure and advised the Parties that it would delegate the task of establishing the details of the procedure to the confidentiality advisor subject to the overall supervision of the Tribunal.
51. On 21 October 2011, the Parties informed the Tribunal that Professor John R. Crook had agreed in principle to be appointed as confidentiality advisor in this proceeding and that they and Professor Crook had agreed on certain terms, including that Professor Crook would submit a Statement of Independence to the LCIA and sign a confidentiality undertaking under PO-2 before reviewing any confidential documents. Further, they had agreed on a schedule pursuant to which Professor Crook would endeavour to reach a determination by the end of the second week of November 2011 and report his determination in writing to the Tribunal, with copies to counsel for the Parties.
52. On 23 October 2011, Professor John R. Crook confirmed that he had agreed to serve as confidentiality advisor to the Tribunal on the terms and conditions and in accordance with the schedule contained in the Parties' 21 October 2011 letter to the Tribunal, provided those terms were acceptable to the Tribunal. Further, Professor Crook enclosed copies of his signed Statement of Independence and Consent to Appointment and his Declaration regarding protection of confidential information.

53. On 24 October 2011, the Tribunal appointed Professor John R. Crook to serve as confidentiality advisor in the proceeding and accepted the terms and the schedule set forth in the Parties' joint letter dated 21 October 21 2011.
54. On 9 November 2011, Respondent filed its Statement of Defence (“**SoD**”) together with Exhibits R-001, Exhibits R-002 through R-007 (fact witness statements of Messrs. [], James D. Crover, Tim Ebata and [], Ms. Dana Hayden and Mr. James Snetsinger, respectively), Exhibits R-008 through R-012 (expert witness reports of Susan Athey, Ph.D., and Peter Cramton, Ph.D., Joseph P. Kalt, Ph.D., Katherine J. Lewis, RPF, Ph.D., Luiz C. Oliveira, Ph.D. and Darrell Wong, Ph.D. and John Taylor, Ph.D., respectively), Exhibits R-013 through R-146 and authorities RA-1 through RA-4.
55. On 13 November 2011, Professor John R. Crook delivered the Report of the Confidentiality Advisor concluding that disclosure of the redacted material in five groups of documents received by Claimant as part of the document exchange process in this arbitration would be contrary to section 21 of the B.C. Privacy Act and therefore recommending that the Tribunal uphold the redactions made by Canada in those documents.
56. On 18 November 2011, the Tribunal issued Procedural Order No. 7 (“**PO-7**”) deciding that it would not instruct Respondent to provide unredacted versions of the documents referenced in disclosure requests nos. 8 and 10.
57. On 16 November 2011, Respondent filed the non-confidential versions of its SoD, exhibits and exhibit list as well as authorities and authorities list.
58. On 21 November 2011, Claimant requested, pursuant to paragraph 3.2(e) of PO-2, that the following expert witnesses be approved by the Tribunal to sign Confidentiality Undertakings: Mr. Jonathan Neuberger, Economists Incorporated, and Mr. Tom Beck, The Beck Group. Further, pursuant to paragraph 3.2(f) of PO-2, Claimant requested that the following current (and one retired) government officials be approved to sign Confidentiality Undertakings: Mr. Jonathan Zielinski, Department of Commerce; Mr. Scott McBride, Department of Commerce; Mr. Robert Copyak, Department of Commerce; Mr. James Terpstra, Department of Commerce; Mr. Quentin Baird, Department of Commerce; Mr. Christopher Fettig, United States Forest Service; Ms.

Eini Lowell, United States Forest Service; Mr. Frank Duran, United States Forest Service (retired); and Mr. Randy Bramer, United States Forest Service.

59. On 24 November 2011, and in response to Respondent's advice dated 23 November 2011 that it had no objections save with respect to Mr. Tom Beck, the Tribunal approved the request except for Mr. Beck.
60. On 7 December 2011, after disclosure of the Beck Group's links with forestry industry clients from 2007 through 2011 in the attachment to a letter from Claimant dated 5 December 2011, the Tribunal approved that Mr. Tom Beck sign a Confidentiality Undertaking.
61. On 8 December 2011, Respondent requested, pursuant to paragraph 3.2(e) of PO-2, that the following expert witnesses be approved by the Tribunal to sign Confidentiality Undertakings: Susan Athey, Ph.D.; Peter Cramton, Ph.D.; Mr. James D. Crover; Provincial Forest Health Officer Tim Ebata; Deputy Minister Dana Hayden; Chief Forester James Snetsinger; Joseph P. Kalt, Ph.D.; Katherine J. Lewis, Ph.D.; Luiz C. Oliveira, Ph.D.; John Taylor, Ph.D.; and Darrell Wong, Ph.D. Further, pursuant to paragraph 3.2(f) of PO-2, Respondent requested that the following current and retired government officials be approved by the Tribunal to sign Confidentiality Undertakings: Mr. Colin Bird, Softwood Lumber Division, Department of Foreign Affairs and International Trade, Canada; Ms. Anne Malépart, Senior Policy Analyst, Department of Foreign Affairs and International Trade, Canada; Ms. Vera Sit, Executive Director, Strategic Initiatives, British Columbia Ministry of Jobs, Tourism and Innovation; Ms. Rebecca Ewing, Manager Softwood Lumber & Trade, British Columbia Ministry of Jobs, Tourism, and Innovation; and Mr. Bruce McRae, retired from the British Columbia Ministry of Forests, Lands, and Natural Resources.
62. In response to Claimant's advice of 13 December 2011 that it had no objections except with respect to Dr. Joseph P. Kalt, the Tribunal approved Respondent's request on 14 December 2011 save for Dr. Kalt.
63. On 19 December 2011, after disclosure of Dr. Joseph P. Kalt's links with forestry industry and description of his previous involvement in disputes between Canada and the United States in Respondent's letter of 16 December 2011, the Tribunal approved that Dr. Kalt sign a Confidentiality Undertaking

64. On 23 December 2011, Claimant filed its Reply (“**Reply**”) with Exhibits C-103 to C-107 (rebuttal expert witness reports of Ms. Eini Lowell, Messrs. Jonathan Neuberger, Chris Fettig, Frank Duran and Tom Beck), Exhibits C-108 to C-189 and authorities CA-9 to CA-16.
65. On 28 December 2011, Respondent requested the Tribunal to direct Ms. Eini Lowell and Messrs. Frank Duran and Christopher Fettig who signed Confidentiality Undertakings pursuant to Section 3.2(f) of PO-2 and submitted witness statements with Claimant's reply submission to make the disclosures required by paragraph 3.2(e) of PO-2. On 30 December 2011, in response to the Tribunal's invitation to comment, Claimant made such disclosures.
66. On 29 December 2011, Claimant filed the non-confidential version of its Reply, exhibits and exhibit list (except for Exhibits C-103 and C-107).
67. On 30 December 2011, Respondent requested the Tribunal to direct Claimant to take reasonable steps to seek the return or destruction of any copies of Claimant's non-confidential version of its Reply. Respondent attached a table ("Attachment A") in which it identified 18 paragraphs of the Reply for which the redactions were in dispute as well as an amended list of exhibits ("Attachment C") in which it sought to designate four exhibits (Exhibits C-131 to C-134) as confidential.
68. On 31 December 2011, Claimant commented on Respondent's letter of 30 December 2011, stating that all Confidential Information had been redacted from the public version of the Reply. Claimant agreed not to distribute further the public version of the Reply until the Tribunal had ruled on Respondent's objections.
69. On 5 January 2012, the Tribunal issued Procedural Order No. 8 (“**PO-8**”) in which it decided that (i) in the case of 16 of the 18 paragraphs in question (all but items 3 and 11 of Attachment A), Claimant should revert to the bracketing that it had originally made in the confidential version of the Reply (column one of Attachment A); (ii) in the case of items 3 and 11 of Attachment A, Claimant should adopt the bracketing proposed by Respondent; (iii) Exhibits C-131 to C-134 and any references thereto in the Reply should be designated as Confidential Information and Claimant should redact its list of exhibits correspondingly (as in Attachment C); and (iv) Claimant was instructed to distribute only the non-confidential version of the Reply and accompanying list of exhibits redacted as per this Procedural Order, and to take reasonable steps to seek the

return or destruction of any copies of the previous non-confidential version of the Reply that may have already been distributed.

70. On 3 February 2012, Respondent filed its Rejoinder (“**Rejoinder**”) together with Exhibits R-147 through R-149 (supplemental fact witness statements of Messrs. [], James D. Crover and James Snetsinger, respectively), Exhibits R-150 through R-152 (rebuttal expert witness reports of Professors Susan Athey and Peter Cramton, Joseph P. Kalt and Katherine J. Lewis, respectively) and Exhibits R-153 through R-224 and authorities RA-5 through RA-9.
71. On 10 February 2012, Respondent filed the non-confidential version of its Rejoinder, exhibits and exhibit list, and authorities and authorities list, together with non-confidential versions of the supplemental witness statement of Mr. James D. Crover (Exhibit R-148) and the rebuttal expert report of Professor Joseph P. Kalt (Exhibit R-151).
72. On 11 February 2012, the Parties submitted their respective lists of outstanding issues with respect to the organization of the Hearing to be discussed during the pre-Hearing telephone conference.
73. On 13 February 2012, each of Claimant and Respondent submitted a notification of the witnesses of fact and expert witnesses presented by the other Party which it wished to cross-examine at the Hearing as well as a request that the Tribunal permit the appearance at the Hearing of certain of its witnesses.
74. On 15 February 2012 at noon Washington, D.C. time, a pre-hearing telephone conference (the “**Pre-Hearing Telephone Conference**”) was held with the Parties.
75. On 18 February 2012, Claimant objected to pages 67 through 73, and Exhibit B, of the Rebuttal Expert Witness Report of Professor Joseph P. Kalt submitted on 3 February 2012 (Exhibit R-151) and requested that the Tribunal strike these portions of Professor Kalt’s rebuttal report on grounds that Claimant was not in a position to fully assess and respond to this model prior to the Hearing.
76. On 20 February 2012, the minutes of the Pre-Hearing Telephone Conference were distributed to the Parties, containing the Tribunal’s decisions on the pending issues and requests.

77. On 20 February 2012, Respondent requested a ruling from the Tribunal that Section 5.7 of PO-1 shall not apply to Messrs. [], Steve Fletcher and Russell Taylor, but rather that cross-examination of them shall be limited to the writings about which Claimant has stated that it wishes to question them.
78. Shortly before the Hearing, the Parties informed the Tribunal that Mr. Russell Taylor would not attend the evidentiary hearing and that Claimant had withdrawn its notification of Mr. Frank Duran to testify at the Hearing. On 27 February 2012, at the Hearing, Claimant consented to having the report of Mr. Taylor included in the record, even though he was not appearing as a witness.
79. With regard to Respondent's request that cross-examination of Messrs. [] and Steve Fletcher be limited to their witness statements, the Tribunal ruled at the Hearing on 29 February 2012 that since it had ruled that Messrs. [] and Fletcher are witnesses within the meaning of PO-1, the normal rule shall apply, and the cross-examination will not be strictly limited to the witness statements; however, the Tribunal indicated that it will decide on a case-by-case basis where Respondent sees the need to raise a concern because it had not considered these two persons being witnesses and had not prepared them. The Parties agreed that for the testimony of [], the Hearing would be closed for persons who had not signed confidentiality undertakings.
80. On 22 February 2012, Respondent objected to Claimant's application to strike pages 67 through 72 and Appendix B of the Rebuttal Expert Witness Report of Joseph P. Kalt.
81. On 24 February 2012, the Tribunal informed the Parties that, with regard to the remedy model presented by Dr. Joseph P. Kalt, Claimant's concerns did not justify the exclusion of Respondent's submissions as to how a compensatory adjustment should be calculated. Rather to the extent that Claimant was unable to deal with this model at the Hearing and cross-examine Dr. Kalt on it, Claimant would be afforded sufficient opportunity to do so in written pleadings following the Hearing and, if required, at a further witness examination of Dr. Kalt.
82. From 27-29 February and 1-2, 5-6 and 8 March 2012, a hearing on the merits took place at the premises of the World Bank in Washington, D.C. (the "**Hearing**"). At the Hearing, the following persons appeared before the Tribunal:

(i) On behalf of Claimant:

United States Department of Justice:

- Patricia McCarthy
- Claudia Burke
- Reginald Blades
- Gregg Schwind
- Stephen Tosini
- Katy Bartelma
- Nelson Richards
- Antonia Soares
- Hillary Van Tassel
- Phil Glatfelter

United States Trade Representative:

- Dan Brinza
- Suzanne Garner
- Matt Gold
- Rachel Ramos
- Mary Smith

Department of Commerce:

- Quentin Baird
- Robert Copyak
- Jessica Forton
- Scott McBride
- Julie Santoboni
- Jonathan Zielinski

Department of State:

- Nicole Thornton

Other Attendees:

- Bryan Beck
- Brent Bartlett
- Andrew Kentz
- Henry McFarland
- Robert Stoner
- David Yocis

(ii) On behalf of Respondent:

Government of Canada

Hughes Hubbard & Reed LLP:

- John M. Townsend
- Joanne E. Osendarp
- John F. Wood
- Eric S. Parnes
- John M. Ryan
- James H. Boykin
- Elizabeth C. Solander
- Michael E. Flynn-O'Brien
- Benjamin Grillot
- Alexandra Hess
- Anupama Chettri, Trade Specialist
- Stephen Halpin, paralegal
- Robert Hillenbrand, paralegal

Trade Law Bureau, Government of Canada:

- Matthew Kronby, General Counsel and Director General
- Michael Owen, Senior Counsel and Deputy Director
- Carrie Vanderveen, Counsel

Department of Foreign Affairs and International Trade:

- Laurent Cardinal, Director General
- Colin Bird, Director, Softwood Lumber Division
- Anne Malépart, Senior Policy Analyst, Softwood Lumber Division

Embassy of Canada to the United States:

- Paul Robertson
- Vaskan Khabayan

Natural Resources Canada:

- Susan Phelps

British Columbia

Akin Gump Strauss Hauer & Feld LLP, counsel for British Columbia:

- Spencer S. Griffith
- Larry E. Tanenbaum
- Bernd Janzen
- Sally Laing
- William Leahy
- Bruce McRae (retired B.C. Ministry; consultant)

Ministry of Jobs, Tourism, and Innovation, British Columbia:

- Hon. Dana Hayden, Deputy Minister (*witness*)
- Vera Sit, Executive Director
- Rebecca Ewing, Manager, Softwood Lumber and Trade

Ministry of Forests, Lands, and Natural Resources, British Columbia:

- James Snetsinger, RPF, Chief Forester and Assistant Deputy Minister (*witness*)
- Tim Ebata, RPF, Forest Health Officer (*witness*)

- Steve Fletcher, Senior Timber Pricing Forester (*witness*)

Ministry of Justice, British Columbia:

- Bruce Macallum, Counsel
- Jonathan Eades, Counsel

British Columbia Lumber Trade Council

Farris Vaughan Wills & Murphy LLP, counsel for British Columbia Lumber Trade Council:

- A. Keith Mitchell
- Robert McDonell

Step toe & Johnson, counsel for British Columbia Lumber Trade Council:

- Mark Moran
- Matthew S. Yeo

British Columbia Lumber Trade Council:

- John Allan, President

Other Provinces of Canada

Arnold & Porter, counsel for Alberta:

- Lawrence Schneider
- Matthew Roessing

Alberta Sustainable Resource Development:

- Ron Dunnigan
- Kelly Purych

Davenport & James PLLC, counsel for Manitoba and Saskatchewan:

- Michelle Sherman Davenport

Hogan Lovells, counsel for Ontario:

- Mark McConnell
- Deen Kaplan
- Anthony Capobianco

Ministry of Northern Development, Mines and Forestry, Ontario:

- Jeff Walker

Arendt Fox, counsel for Québec:

- Matthew Clark
- Keith Marino

*Ministère du Développement économique, de l'Innovation et de l'Exportation,
Québec:*

- Patrick McSweeney

Ministère des Ressources naturelles et de la Faune, Québec:

- Richard Gauvin
- Larry Tremblay
- Tim Johnson
- Alain Oliver

Also attending

Cassidy Levy Kent LLP, counsel for Maritime Forest Industry:

- Mark A. Zekulin

Baker Hostetler, counsel for Québec Forest Industry Council (QFIC) and Ontario Forest Industries Association (OFIA):

- Elliott Feldman
- Michael Snarr

Compass Lexecon, economic consultants to Canada:

- David Reishus, Ph.D.

Core Legal Concepts, audio-visual consultants to Canada:

- Alex Miller
- Chris Reynolds

83. The Hearing was transcribed and the transcript was distributed to the Parties at the end of each day.

84. The following witnesses and expert witnesses were examined and cross-examined at the Hearing:

(i) On behalf of Claimant:

- Tom L. Beck, President, The Beck Group
- Christopher J. Fettig, Ph.D., Principal Research Entomologist and Team Leader, Invasives and Threats Team, Pacific Southwest Research Station, USDA Forest Service
- Jonathan A. Neuberger, Ph.D., Principal, Economists Incorporated

(ii) On behalf of Respondent:

- Susan Athey, Ph.D., Professor of Economics, Harvard University
- []
- James D. Crover, Natural Resources Consultant, former Scaling Policy Forester, B.C. Ministry of Forests, Lands, and Natural Resource Operations

- Tim Ebata, RPF, Forest Health Officer, Ministry of Forests, Lands, and Natural Resources, British Columbia
- Steve Fletcher, Senior Timber Pricing Forester, Ministry of Forests, Lands, and Natural Resources, British Columbia
- []
- Hon. Dana Hayden, Deputy Minister, Ministry of Jobs, Tourism, and Innovation, British Columbia
- Joseph P. Kalt, Ph.D., Professor of International Political Economy, John F. Kennedy School of Government, Harvard University
- Katherine J. Lewis, Ph.D., Professor of Ecosystem Science and Management, University of Northern British Columbia
- []
- Luiz C. Oliveira, Ph.D., Group Leader, Wood Drying, Lumber Manufacturing Technology, Forintek Division, FPIInnovations
- James Snetsinger, RPF, Chief Forester and Assistant Deputy Minister, Ministry of Forests, Lands, and Natural Resources, British Columbia
- Darrell Wong, Ph.D., Sawmilling Group Leader, Forintek Division, FPIInnovations

85. On 7 May 2012, Respondent informed the Tribunal, with regret, that Dr. John Taylor, one of its expert witnesses who was unable to attend the Hearing owing to illness, had died on 2 May 2012.
86. On 24 May 2012, the Parties simultaneously submitted their respective post-Hearing briefs (“**Post-Hearing Brief**”; for Claimant, “**C-PHB**” and for Respondent “**R-PHB**”), . Claimant also submitted the Post-Hearing Expert Witness Report of Jonathan Neuberger (Exhibit C-203), and Respondent submitted the authorities cited in its Post-Hearing Brief that had not been submitted previously, namely RA-10 through RA-15.
87. On 30 May 2012, Respondent requested the Tribunal to strike from the record the Post Hearing Expert Witness Report of Jonathan Neuberger (Exhibit C-203) and to order Claimant to submit a new post-hearing brief that does not refer to such Report.
88. On 1 June 2012, Claimant requested the Tribunal to reject Respondent’s application and to reject Respondent’s request that Claimant be required to submit a new post-hearing brief that does not refer to Dr. Neuberger’s post hearing report.

89. On 4 June 2012, the Tribunal informed the Parties by e-mail that Respondent's application was being considered by the Tribunal and the Tribunal would respond to it in due course.
90. On 18 July 2012, the Tribunal issued Procedural Order No. 9 (“**PO-9**”) granting Respondent’s request that the Post Hearing Expert Witness Report of Jonathan Neuberger be struck from the record.

D. THE DISPUTE

91. This arbitration brought under the SLA of 2006 arises out of a dispute concerning the sale by the Canadian province of British Columbia ("B.C.")² to its lumber manufacturers of timber as "*lumber reject*" (Grade 4) at the rate of C\$ 0.25 per cubic meter. The SLA prohibits Respondent from providing "*grants or other benefits*" to softwood lumber producers and exporters, subject to certain exceptions. The Parties are in dispute whether Respondent complied with this obligation.

I. The 2006 Softwood Lumber Agreement

92. The export of softwood lumber from Canada to the United States of America has long been the subject of trade disputes. After extensive negotiations, the Parties entered into the SLA on 12 September 2006.

93. Under the SLA, Canada agreed to limit exports of softwood lumber to the United States from certain softwood lumber producing regions of Canada when the price of lumber is below US\$ 355 per thousand board feet, through a combination of export quotas and taxes for certain regions and export taxes along for other regions (referred to in the SLA as "*Export Measures*").³ Article VI of the SLA provides that "[a]s of the Effective Date, Canada shall apply the *Export Measures* to exports of *Softwood Lumber Products* to the United States."

94. In return, the United States agreed to refrain from initiating certain trade actions, to revoke its countervailing and antidumping duty orders and to refund US\$ 5 billion in cash deposits it had collected from Canadian softwood lumber exporters.⁴ The Parties further agreed that Canada would set aside US\$ 1 billion of the refunded amount to be

² While the SLA was entered into between Canada and the United States, under the Canadian Constitution, the Canadian provinces are responsible for the management of their forestry resources and timber sales from their Crown lands. The provinces enter into tenure or other licensing arrangements with private companies that permit those companies to harvest standing timber on Crown lands. The private companies are obligated to pay for the timber pursuant to provincial pricing requirements.

³ SLA, Articles VI and VII. The term "*Export Measures*" is defined as the measures in Articles VII (export charge and export charge plus volume restraint), VIII (surge mechanism), IX (third country adjustment), Article X(2) (conditions for continued eligibility for exclusions from export measures), Article XII(2)(b)(i) (regional exemptions from export measures) and Article XVII(5)(a) (charges for excess shipments of softwood lumber products from the Maritimes). SLA, Article XXI(23).

⁴ See SLA, Articles III, IV and V.

split among the U.S. industry, a binational industry council and certain "*meritorious initiatives*" in the United States.⁵

95. As the price of lumber has remained low since October 2006, Export Measures have been in effect almost every month in which the SLA has been in force.⁶
96. Both Parties agreed in Article XVII of the SLA not to take action to circumvent or offset their respective commitments under the Agreement. Article XVII reads, in relevant part, as follows:

1. Neither Party, including any public 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 de facto basis to producers or exporters of Canadian Softwood Lumber Products. Notwithstanding the foregoing, measures that shall not be considered to reduce or offset the Export Measures in the SLA 2006 include, without limitation:

(a) provincial timber pricing or forest management systems as they existed on July 1, 2006, including any modifications or updates that maintain or improve the extent to which stumpage charges reflect market conditions, including prices and costs,

[...]

(c) actions or programs undertaken by a Party, including any public authority of a Party, for the purpose of forest or environmental management, protection, or conservation [...], provided that such actions or programs do not involve grants or other benefits that have the effect of undermining or counteracting movement toward the market pricing of timber.

[...]

4. In respect of British Columbia,

⁵ SoD ¶ 29.

⁶ SoC ¶ 10.

(a) the MPS shall be considered a provincial timber pricing or forest management system that existed on July 1, 2006.⁷

(b) Canada warrants that the central purpose of the MPS is to implement a system that is more sensitive to market-forces than pre-existing systems. The MPS and fluctuations in stumpage charges that result from the operation of the MPS, including fluctuations resulting from changes in market conditions or other factors, such as transportation costs, exchange rates, timber quality, and natural harvesting conditions, shall not constitute circumvention of the SLA 2006 or offset its commitments;

97. Accordingly, each "Party" is prohibited from taking any "action to circumvent or offset the commitments under the SLA, including any action having the effect of reducing or offsetting the Export Measures." 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 *de facto* basis to softwood lumber producers or exporters, unless they fall within one of the two exceptions of Article XVII(2)(a) and (2)(c) of the SLA.
98. The first exception permits B.C. to continue to apply the newly-reformed timber pricing and forest management systems as they existed on 1 July 2006, which were grandfathered or, if B.C. wished to change the system, required that the change maintain or improve the extent to which stumpage charges reflect market conditions.⁸ The second included actions or programs undertaken by a Party for the purpose of forest or environmental management, protection or conservation.⁹
99. The SLA contains specific provisions on the remedies available in case of breach. Pursuant to Article XIV(22) of the SLA, the Tribunal must set a time period to cure the breach and determine adjustments to the export measures if the breach is not cured:

If the tribunal finds that a Party has breached an obligation under the SLA 2006, the tribunal shall:

⁷ The term "MPS" or "Market Pricing System" means, in the case of the B.C. Interior, the timber pricing policies and procedures in the Interior Appraisal Manual in effect on 1 July 2006 and certain accompanying papers specified in SLA, Article XXI(35).

⁸ SoC ¶ 56; SoD ¶ 45; SLA, Article XVII(2)(a).

⁹ SLA, Article XVII(2)(c).

- (a) *Identify a reasonable period of time for that Party to cure the breach, which shall be the shortest reasonable period of time feasible and, in any event, not longer than 30 days from the date the tribunal issues the award; and*
- (b) *Determine appropriate adjustments to the Export Measures to compensate for the breach if that Party fails to cure the breach within the reasonable period of time.*

100. The Parties also agreed to exchange certain information to ensure that the SLA functions as intended. Pursuant to Article XV of the SLA, Canada is required to provide the United States information regarding exports of lumber to the United States, so that the Parties can reconcile Canada's export information with the United States' import information. Canada is also required to notify the United States of any change to a provincial timber pricing or forest management system that Canada believes is covered by certain of the safe harbours of Article XVII, together with an explanation of why it is covered, including any evidence showing that such a change improves the statistical accuracy and reliability of the system or maintains or improves the extent to which the stumpage charges reflect market conditions.¹⁰
101. The SLA remains in force until 12 October 2013 and may be extended by agreement of the Parties for an additional two years.¹¹ Such extension for another two years has recently been agreed.¹²
102. The SLA divides B.C. into two regions, the Coast and the Interior. This arbitration concerns only the B.C. Interior.

II. Previous Disputes under the SLA

103. A number of arbitrations has been brought under the SLA. The Parties rely to a certain extent on the prior proceedings.
104. The first proceeding was brought by the United States in 2007. In *United States v. Canada, LCIA No. 7941*, the tribunal held that Canada breached the SLA by failing to

¹⁰ SLA, Article XV(13), (14); SoD ¶ 38.

¹¹ SLA, Article XVIII.

¹² Transcript, page 27, line 13.

perform a particular calculation as of January 2007,¹³ and that Canada must compensate for the breach by collecting an additional 10 % export charge on softwood lumber shipments from Option B¹⁴ regions until the total amount of C\$ 63.9 million plus interest (totalling C\$ 68.26 million) was collected.¹⁵

105. The LCIA 7941 Tribunal also determined that both a cure and compensatory measures under the Agreement share the same goal: to wipe out the consequences of the breach, both past and present. The tribunal relied on both the terms of the SLA and the general principle that a state is to provide full reparation for an injury caused by a wrongful act of that state – referring to the principle as reflected in Article 31 of the ILC Articles on State Responsibility.¹⁶
106. The compensation in *United States v. Canada, LCIA No. 7941* was straightforward – to the extent that Option B regions had paid lower tariffs on a particular volume of lumber exported to the United States, the compensation was an adjustment to the export charges.
107. Shortly after the LCIA 7941 Tribunal issued its award on 23 February 2009, Canada brought a new arbitration. It requested that the LCIA 7941 Tribunal be reconstituted to decide the question of whether Canada had cured its breach when it failed to impose the compensatory export measures required by the tribunal and instead conditionally offered to pay the United States US\$ 34 million. The reconstituted tribunal, in its Award of 27 September 2009, held that its previous Award on Remedies did not contemplate that an offer to pay a lump sum, particularly a lump sum that was conditional and not accepted by the United States, could be a "cure."¹⁷
108. The United States also brought a further arbitration in 2008, this time alleging that six Canadian government benefit programs had breached the SLA by providing grants and other benefits to softwood lumber producers in violation of the anti-circumvention article. The LCIA 81010 Tribunal determined, in its Award of 20 January 2011, that a

¹³ CA-4, *United States v. Canada, Award on Liability*, LCIA No. 7941 (3 March 2008).

¹⁴ Option B Regions are those regions electing, pursuant to Article VII of the SLA, to have Canada apply the measures in Option B, namely an Export Charge with a volume restraint where both the rate of the Export Charge and the applicable volume restraint vary based on the Prevailing Monthly Price as defined in SLA, Annex 7A, and also as provided in SLA, Article VII(2).

¹⁵ CA-5, *United States v. Canada, Award on Remedies*, LCIA 7941 (23 February 2009).

¹⁶ *See Id.* ¶¶ 284, 295-96.

¹⁷ CA-7 ¶ 162 (*Canada v. United States, Award*, LCIA No. 91312 (21 September 2009)).

number of programs breached the Agreement. Regarding remedy, the LCIA 81010 Tribunal agreed with the LCIA 7941 Tribunal that "*the remedies system of the SLA covers past effects*," and relied on the terms of the SLA to reach that conclusion.

III. The Present Dispute and Requests for Relief

1. Claimant's Position and Requests for Relief

109. In the present dispute, Claimant advances the following claim against Respondent:

110. Respondent has taken the action of selling underpriced timber that has been misgraded. Respondent has accomplished this in a variety of ways, but the breaching action is the selling of timber at less than its value.¹⁸ Respondent has changed the timber pricing system grandfathered by the SLA by applying substitute practices and rules which all succeeded in making logs more likely to be misgraded as Grade 4. As a result, timber that actually meets the 50/50 rule, which determines whether a log is capable of being used for the manufacture of lumber, i.e., is a sawlog, as explained at Section E.I.2 below, has been graded as if it fails to meet that rule.¹⁹

111. According to Claimant, this led to the selling of large volumes of lumber-quality timber misgraded as "*lumber reject*" grade ("*Grade 4*") at the low rate of C\$ 0.25 per cubic meter rather than at the higher sawlog rate. It is Claimant's case that this selling of timber at stumpage fees below those required under the grandfathered system constitutes a government action in circumvention of the SLA.²⁰

112. Claimant supports its case with the undisputed fact that beginning in 2007, the percentage of Grade 4 timber sold by B.C. to lumber producers increased considerably. According to Claimant, B.C.'s own studies demonstrate that this increase is not attributable to changes in timber quality or to the mountain pine beetle (the "**MPB**") infestation affecting the B.C. Interior pine forests.

113. Rather, Claimant submits, the increase can only be explained by misgrading of timber. According to Claimant, faced with a collapsing U.S. housing market, [

¹⁸ Reply ¶ 21.

¹⁹ C-PHB ¶ 13; SoC ¶ 96.

²⁰ Reply ¶ 128; C-PHB ¶ 8.

] ²¹ from the government which would deal with the higher stumpage rates in a bad market and the financial tolls the SLA's requirements were taking. According to Claimant, the B.C. Ministry of Forests and Range ²² (the "**Ministry**") looked for ways to provide financial relief to its industry. ²³ It considered the option of changing the pricing system to provide the requested relief. However, Claimant submits that B.C. recognized that this would require regulatory approval and would implicate the SLA as a *de jure* change to the April 2006 reforms (*see* paragraph 146 below). ²⁴

114. The other option, Claimant submits, was to make changes to the grading system and call them mere "*clarifications*." Claimant argues that Respondent chose this less formal, non-transparent option which would also provide a more immediate solution. ²⁵ However, according to Claimant, the changes were not mere clarifications, but significant changes to the grading system by which B.C. pursued its goal of increasing the amount of Grade 4 timber in response to the crash of the U.S. housing market. ²⁶
115. As examples of how B.C. pursued this goal and facilitated the sale of underpriced timber, Claimant lists four "*actions*" by B.C. that allegedly changed the grandfathered timber grading and scaling system in ways that made logs more likely to be misgraded as Grade 4. These "*actions*" are: (1) encouraging use of "*local knowledge*" (*see* paragraphs 280 *et seq.*); (2) allowing the practice of "*kiln warming*" (*see* paragraphs 309 *et seq.*); (3) urging the use of "*bucking*" (*see* paragraphs 344 *et seq.*) and introducing a new "*sweep*" formula (*see* paragraphs 348 *et seq.*); and (4) developing changes to the Scaling Manual which contained instructions on how to implement the scaling and grading system (*see* paragraphs 375 *et seq.*). According to Claimant, B.C. took all of these steps to provide the requested "*immediate solution*" for the industry and accomplished the goal of selling the majority of MPB timber at a low, flat fee, ²⁷ as each

²¹ C-52 at CAN 010640.

²² The full name of the Ministry has changed over the years. From 1988 to 2005, it was called the Ministry of Forests. From 2005 to 2010, it was the Ministry of Forests and Range. From 2010 to 2011, it was the Ministry of Forests, Mines and Lands. Since 14 March 2011, the name of the Ministry has been the Ministry of Forests, Lands, and Natural Resources.

²³ C-PHB ¶ 91.

²⁴ C-PHB ¶ 151.

²⁵ C-PHB ¶ 151.

²⁶ C-PHB ¶¶ 14, 7, 151.

²⁷ C-PHB ¶ 151.

of the actions contributed to the dramatic increase in Grade 4 between May 2007 and the present.²⁸

116. By providing such immediate relief to its industry, the B.C. government conferred a benefit that enabled the producers to endure a bad market, faced only with the risk of having to pay increased export charges in better market conditions, as part of a remedy under the SLA.²⁹
117. Claimant argues that since Respondent has failed to show that the changes and practices were part of a move toward market pricing or reflected market conditions, the actions do not fall within either of the Article XVII exceptions to the anti-circumvention rule. According to Claimant, Respondent has thus breached Article XVII of the SLA, which prohibits Canada from providing “*grants or other benefits*” to softwood lumber producers and exporters.³⁰
118. Claimant alleges that this breach resulted in the producers and exporters recovering substantially more money than if they had purchased the timber under the system grandfathered by the SLA. By Claimant's calculations in its SoC, B.C. has provided its lumber industry overall benefits of C\$ 499 million through March 2012.³¹ Claimant later reduced its calculations of benefits until the date of the Hearing to C\$ 303.6 million in its Reply.³² In its Post-Hearing Brief, based on a calculation of preferred remedy by Claimant's expert witness Dr. Jonathan Neuberger, Claimant quantified the total benefits at C\$ 384.4 million assuming that Respondent does not cure the breach before the expiration of the SLA.³³
119. Claimant asks the Tribunal to order compensatory adjustments to the export measures in an amount that remedies the alleged breach as required by Article XIV(22) of the SLA. Since Respondent breached the SLA to benefit its industry, the compensatory adjustments should, according to Claimant, result in the application of additional export charges.³⁴ Claimant submits that the total remedy must (1) account for past, current and

²⁸ C-PHB ¶ 91.

²⁹ C-PHB ¶¶ 6, 151.

³⁰ C-PHB ¶ 8, 11.

³¹ SoC ¶ 186.

³² Reply ¶ 295.

³³ C-PHB ¶ 185.

³⁴ C-PHB ¶ 9.

future benefits provided to the Canadian industry and (2) eliminate 100 % of the benefits provided.³⁵

120. In summary, Claimant requests that the Tribunal order Respondent to apply an additional export charge to softwood lumber products exported from B.C. Interior to the United States beginning one month after the date of this Award, and continuing until the full amount of the benefit, C\$ 384.4 million, has been collected.³⁶

121. In its Post-Hearing Brief, Claimant therefore seeks the following relief:³⁷

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. The United States requests that the Tribunal choose Dr. Neuberger's preferred remedy as compensatory adjustments, or in the alternative, one of Dr. Neuberger's alternative proposals.

Specifically, the United States respectfully requests that the Tribunal find that Canada should apply an additional export charge to softwood lumber products exported from BC Interior to the United States beginning one month after the date of the Award, and continuing until the full amount of the benefit, \$384.4 million (as established in Dr. Neuberger's preferred remedy, including past and continuing benefits conferred until the expiration of the SLA) has been collected. The United States respectfully requests that the Tribunal further find that the additional export charge shall be calculated according to the following table:

*Export Charge Under Preferred Remedy
For Award Dates Between July 2012 And July 2013*

³⁵ C-PHB ¶ 184.

³⁶ C-PHB ¶ 187.

³⁷ C-PHB ¶¶ 290-292.

Date of Award	Export Charge For Benefits up to Date of Award	Export Charge For Post-Award Benefits	Total Export Charge
March 2012	8.2%	2.3%	10.5%
⋮	⋮	⋮	⋮
July 2012	9.3%	2.3%	11.6%
August 2012	9.6%	2.3%	11.9%
September 2012	9.9%	2.3%	12.2%
October 2012	10.3%	2.3%	12.5%
November 2012	10.6%	2.3%	12.9%
December 2012	11.0%	2.3%	13.3%
January 2013	11.4%	2.3%	13.7%
February 2013	11.8%	2.3%	14.1%
March 2013	12.3%	2.3%	14.6%
April 2013	12.8%	2.3%	15.1%
May 2013	13.3%	2.3%	15.6%
June 2013	13.9%	2.3%	16.1%
July 2013	14.5%	2.3%	16.7%

Figure 5.

Sources:

- 1) Preferred Subsidy Calculation Workbooks
- 2) Q3 2010 Bid Effect Estimation.xlsx

This remedy stays within the confines of the SLA itself and does not require the Tribunal to determine the economic effects of the breach.

With respect to the cure period, the United States proposes that Canada be granted 30 days, the maximum amount of time permitted under the SLA, to cure its breach before imposition of the Export Measures.

2. Respondent’s Position and Requests for Relief

122. Respondent denies Claimant’s claim on the following basis:
123. According to Respondent, Claimant is attempting to manufacture a breach of Article XVII from the unprecedented devastation inflicted on B.C. Interior’s forests by an epidemic infestation of the mountain pine beetle.
124. Respondent argues that Claimant must identify and prove a specific government action which has provided a grant or other “benefit” to exporters or producers of Canadian softwood lumber producers. Claimant fails to do so. In particular, Claimant cannot

identify or submit any factual evidence for such action, and much less for Respondent's intention to circumvent its treaty obligations through government actions.³⁸

125. Claimant's case that "[t]he selling of timber at less than its value is the breaching action"³⁹ must fail. The "selling" of Grade 4 timber for C\$ 0.25 per cubic meter has always been part of B.C.'s timber pricing system and is explicitly grandfathered by the SLA.⁴⁰ According to Respondent, the selling of Grade 4 timber at a minimum stumpage rate as such can therefore not be a circumvention of the SLA, which is why Claimant's case is not based on any government action in terms of Article XVII of the SLA.⁴¹
126. The selling of Grade 4 timber could, according to Respondent, only be considered a circumventing action if some government conduct had caused the timber to be misgraded as Grade 4, because "misgrading" is an essential prerequisite to "underpricing." Since the government itself does not grade logs, any possible breaching action would therefore have to be a government action that led to misgrading. Respondent submits that Claimant has provided no credible evidence for this central question.⁴²
127. Specifically, Respondent emphasizes that Claimant never explained how the Ministry could have caused some 800 industry-employed scalers to engage in a synchronized effort to misgrade logs without any regulation, legislation or evidence of direction or collusion. According to Respondent, Claimant never showed that these scalers were instructed to misgrade, that scalers deliberately misgraded or that the government's check scalers, who oversee the scaling process, were turning a blind eye to misgrading by industry scalers.⁴³
128. Respondent submits that the only two government actions that have been shown to have any effect on the behavior of scalers are the authorization of kiln warming and the adoption of the scaling requirements amending the Scaling Manual effective 1 December 2007 (the "**Scaling Requirements**").⁴⁴ However, neither of these actions was shown to have led to any misgrading of logs. Rather, consistent with the

³⁸ Rejoinder ¶¶ 1, 2.

³⁹ Transcript, page 1678, lines 14, 15; Reply ¶ 21.

⁴⁰ R-PHB ¶ 3.

⁴¹ Rejoinder ¶ 88; Transcript, page 1678, lines 17 *et seq.*

⁴² R-PHB ¶¶ 3, 4.

⁴³ R-PHB ¶¶ 8, 9.

⁴⁴ Transcript, page 1679, lines 5 *et seq.*; R- PHB ¶ 17.

grandfathered B.C. Scaling Regulations and Scaling Manual as they existed on 1 July 2006, they increased the accuracy of grading and simplified the system.⁴⁵

129. Finally, Respondent argues that Claimant has not only failed to identify any government action that caused misgrading, but also has not demonstrated any effect of any such action on the U.S. lumber market or on U.S. lumber producers. According to Respondent, Claimant has provided no evidence that links any of the alleged government actions to a specific amount of misgrading, which is the only way an action could confer a benefit within the meaning of Article XVII(2) of the SLA. Therefore, as Claimant has not established any benefit to B.C.'s softwood lumber producers, there is nothing to remedy under the SLA.⁴⁶

130. On this basis, Respondent requests an award:⁴⁷

For all of the foregoing reasons, the claim of the United States should be dismissed, and an award should be entered in favor of Canada.

E. THE BACKGROUND OF THE DISPUTE

I. Undisputed or Established Facts

131. The following is a summary of the relevant facts which are not disputed between the Parties or which are otherwise established by the evidence submitted in these proceedings to the satisfaction of the Arbitral Tribunal.

1. B.C.'s Grandfathered Timber Pricing System

132. The Ministry is responsible for the administration and management of some 60 million hectares of Crown-owned forests in B.C.⁴⁸ It awards long-term tenures to private forest companies which provide these companies the right to harvest. Tenure holders are charged a fee, known as “*stumpage*,” to reflect the market value of the timber they harvest under these arrangements.⁴⁹

⁴⁵ R-PHB ¶¶ 18, 19.

⁴⁶ R-PHB ¶¶ 20, 27.

⁴⁷ R-PHB ¶¶ 203.

⁴⁸ SoD ¶ 40.

⁴⁹ SoD ¶ 41.

133. In addition to the tenure arrangements, the B.C. government sells about 20 % of the annual harvest through timber auctions of short-term harvesting rights. British Columbia Timber Sales ("BCTS"), an arm of the Ministry, develops the timber for sale, administers the timber auctions and carries out the post-harvest silviculture activities. These timber auctions provide the underpinnings of the stumpage pricing system.⁵⁰
134. B.C. prices timber harvested by tenure holders by a system that has two basic components: the log scaling and grading regime, and the B.C. forest management and timber pricing system, the MPS.
135. It is undisputed that the regimes governing the scaling and grading of logs and the MPS in place as of 1 July 2006 are grandfathered under the SLA. The legal framework of the grandfathered timber scaling and grading regime is set forth in the B.C. Forest Act, the B.C. Timber Scaling Regulations and the B.C. Scaling Manual.⁵¹ B.C.'s legislation (i.e., the Forest Act) is at the top of the hierarchy; it defines the Ministry's purpose and establishes the Ministry's authority. Regulations (i.e., the Scaling Regulations) then set the Ministry's specific strategies. Below the regulations, Ministry policies clarify the Ministry's strategies. At the bottom of the hierarchy, procedures (i.e., the Scaling Manual) provide detailed instructions how to implement the higher authorities.

a) Scaling and Grading

136. Scaling, as a whole, means "*to determine the volume and classify the quality of timber.*" Classifying the quality of timber is known as "*grading.*" 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.*"⁵²
137. The Forest Act does not specify how scaling should be performed. That issue is first addressed in the Scaling Regulations, which contain the Schedule of Interior Timber Grades, i.e., definitions for timber grades that must be used to grade timber in the B.C. Interior.

⁵⁰ SoD ¶ 42.

⁵¹ SoD ¶ 46.

⁵² C-50 at CAN-008440.

138. There are two major systems for log scaling, volumetric (or "*cubic scale*") and product output (or "*log rules*"). The B.C. Interior⁵³ uses volumetric scaling which measures all the wood fibre in cubic volumetric units. By contrast, most jurisdictions in the United States apply some form of "*product output rule*" which attempts to predict the volume of lumber that a log will produce.⁵⁴
139. Scaling (and grading) logs under the B.C. scaling rules is an exercise in measurement and geometry. A scaler measures and records the length of a log and its diameter at each end.⁵⁵ With those measurements, the scaler follows Smalian's formula, a geometric formula for calculating the volume of a tapered cylinder to determine the log's gross volume in cubic meters.⁵⁶ Since logs are not smooth, round and sound, it is necessary for the scaler to find the amount of volume lost from various defects.⁵⁷ Defects that reduce the amount of wood timber that will be subject to stumpage are measured, their volume is calculated and that volume is deducted from the log's gross volume to arrive at a new volume.
140. The B.C. Scaling Manual contains more than 100 pages providing guidance on measuring and applying the rules of geometry to the many variations in shapes of logs and types of defects. The objective of the scaler is to determine the volume of sound fibre in each log.⁵⁸
141. Prior to July 2010, timber harvested in B.C. generally had to be scaled by licensed scalers employed by the private companies that harvest timber, subject to oversight by "*check scalers*" who work for the Ministry.⁵⁹
142. Prior to the April 2006 reforms, the B.C. Interior scaling rules recognized six grades of logs:

⁵³ SoD ¶ 49; Crover Statement ¶ 15 (R-3).

⁵⁴ SoD ¶ 48; M.S. Fonseca, "The Measurements of Roundwood: Methodologies and Conversion Ratios" at 6, 47-48 (2005) (R-119).

⁵⁵ Scaling Regulations, B.C. Reg. 446/94 § 6 (R-22).

⁵⁶ SoD ¶ 50; Forest Act, R.S.B.C. 1996, c 157, Part 6 § 96 (R-20); Crover Statement ¶¶ 27-28 (R-3); Scaling Manual (June 30, 2006), §5.2 at 5.5 (R-19).

⁵⁷ Scaling Manual (June 30, 2006), §4 at 4-1 (R-19).

⁵⁸ Scaling Manual (June 30, 2006), §5 at 5-1 to 5-120; §6 at 6-1 to 6-112 (R-19).

⁵⁹ SoC ¶ 33; SoD ¶ 47.

Interior Log Grades prior to April 2006 ⁶⁰		
Grade Code Blank	Sawlog	A log 2.5 m in length and 5 cm or more in radius. For pine – at least 50% of the gross scale can be manufactured into lumber, 50% of which will be merchantable.
Grade Code 3	Dead and Dry Sawlog	From trees which were dead and dry when harvested.
Grade Code 4	Lumber Reject	Lower in grade than sawlog but higher in grade than firmwood reject (Z)
Grade Code 5	Dead and Dry Lumber Reject	
Grade Code 6	Undersized Log Grade	
Grade Z	Firmwood Reject	

143. In order to determine the grade of a log under this system, the scaler had to exercise his judgment to determine whether there was sufficient observable evidence to determine if the log had been cut from a tree that was already dead.⁶¹ The log grading system in place before April 2006 assigned all lumber reject and all sawlogs harvested from dead and dry trees (Grade 3) the minimum stumpage fee, C\$ 0.25 per cubic meter. Therefore, all MPB-killed timber was priced at the minimum stumpage fee.

⁶⁰ SoC ¶ 33; SoD ¶131; Scaling Regulations, B.C. Reg. 446/94, Schedule of Interior Timber Grades – All Species (R-22).

⁶¹ SoD ¶ 132.

144. This old grading system was revised. In 2005, B.C. requested the Interior Scaling Advisory Committee ("**ISAC**"),⁶² a joint industry and government group, to review the requirements of scaling from both a government and an industry perspective with the objective of recommending policy and procedure changes. An ISAC Subcommittee proposed grading changes that would grade and price logs according to the portion of the log that could be made into lumber and eliminating the two grades that identify "*dead and dry*" logs, Grades 3 and 5. Logs would no longer be graded on whether they were harvested from trees that were living or dead at the time of harvest. Instead, a log would be assigned a "*sawlog*" grade, Grade 1 or Grade 2, if it was capable of being manufactured into lumber or, if not, the log would be assigned the proposed "*lumber reject*" grade, Grade 4. The proposed log grades were first tested in late 2005. The tests were conducted on logs harvested from stands attacked by the MPB a year or two earlier.⁶³
145. The recommendations were made against the background that the old system was considered []⁶⁴ because it was difficult for scalers to assess whether a tree was dead when it was cut down by looking at logs in a sort yard. The purpose was to implement a new, value based grading system on 1 April 2006⁶⁵ []⁶⁶
146. Following these recommendations, in March 2006, B.C. announced that effective 1 April 2006 (the "**April 2006 reforms**"), the Ministry would introduce new log grades for the Interior, based on log size and quality at the time it was scaled, rather than whether the tree was alive or dead at the time of harvest.⁶⁷ The new grading rules were nearly identical to the rules that the ISAC Subcommittee had proposed and are as follows:⁶⁸

⁶² [

] C-15 at CAN-007127.

⁶³ SoD ¶ 133.

⁶⁴ C-9 at CAN-019762.

⁶⁵ C-9 at CAN-019762.

⁶⁶ C-16 at CAN-019780.

⁶⁷ SoC ¶ 5, C-22; SoD ¶ 133.

⁶⁸ SoC ¶ 46.

Interior Log Grades as of April 1, 2006 ⁶⁹		
Grade Code 1	Premium Sawlog	A log 2.5 m or more in length and 10 cm or more in radius – at least 75% of the gross scale can be manufactured into lumber, of which at least 75% will be merchantable
Grade Code 2	Sawlog	A log 2.5 m or more in length and 5 cm or more in radius. For pine- at least 50% of the gross scale can be manufactured into lumber, of which at least 50% will be merchantable
Grade Code 4	Lumber Reject	Higher in grade than firmwood reject (Z) but lower in grade than sawlog
Grade Code 6	Undersized Log Grade	No change
Grade Z	Firmwood Reject	No change

147. The grade changes eliminated Grades 3 and 5, redefined Grade 4 and created new Grades 1 and 2. Claimant's case concerns the distinction between Grade 2 and Grade 4 in lodgepole pine.⁷⁰

148. As regards the different versions of the Scaling Manual relevant to this dispute, upon invitation by the Tribunal, the Parties offered the following joint explanation:

⁶⁹ SoD ¶134; B.C. Reg. 15/2006 (R-142) and B.C. Reg. 80/2006 (R-143), amending Scaling Regulations, B.C. Reg. 446/94, Schedule of Interior Timber Grades – All Species (R-22).

⁷⁰ *Id.*

The parties offer the following joint explanation as to the relationship between Exhibits R-19, C-50, and C-48.

The April 2006 changes to the British Columbia Scaling Manual are contained in Exhibit R-19 as an Amendment to the Scaling Manual. For this reason, the portions of Scaling Manual amended on April 1, 2006, are on pages bearing the legend "Amendment No. 7 April 1, 2006." R-19 is considered to be a version of the Scaling Manual.

Exhibit C-50 is the Scaling Manual as formally published on May 1, 2007. The May 2007 Scaling Manual reflects all previous amendments that are relevant to this case, including the April 1, 2006 Amendment contained in Exhibit R-19. However, the section numbers have been changed, and some minor changes have been made to the text.

Exhibit C-48 is the Scaling Manual, as published and dated July 1, 2008. This version of the manual incorporates the substance of the "Scaling Requirements for Checked Logs" dated December 1, 2007 (Exh. C-82).⁷¹

b) The Pricing System (MPS)

149. The B.C. Interior timber pricing system assigns one of two stumpage prices to any given stand of trees: a variable price generated through a complex economic model, or the flat minimum stumpage rate of C\$ 0.25 per cubic meter. Since the variable price is higher than the minimum price, the grading rules used to determine which logs are eligible for each price are a central component of the provincial pricing system.
150. B.C. timber prices, under the MPS, are market-based. Harvesting rights are sold either through long-term tenures to private forest companies which are charged a stumpage fee reflecting the market value of the timber they harvest,⁷² or through auctions of short-term harvesting rights.
151. At the auctions, the winning bidder acquires the harvest rights to all of the timber specified in the sale, including both the sawlog timber and the low grade timber (as determined by the scaling that takes place after harvest). The bidders specify their bids for the entire stand to be harvested in the form of dollars per cubic meter of sawlog.

⁷¹ E-mail by Claimant's Counsel dated 7 March 2012.

⁷² SoD ¶ 41.

152. The stumpage paid for timber harvested under long-term tenures is tied to the prices bid for similar timber in the timber auctions. The Average Market Price ("AMP") is established in a complex calculation based on the estimated auction value of the stands of timber proposed for harvest. Further, individual appraisals of the stands proposed for harvest are conducted based primarily on estimates of the revenues and costs of harvesting the timber of that stand and processing the logs in the sawmills. The relative values of the different stands are then aligned to the AMP.⁷³

2. The 50/50 Rule

153. The "50/50 rule" is the standard applied in the B.C. Interior to determine whether a log is capable of being used for the manufacture of lumber. It requires that a log be graded as a "sawlog" if it is "2.5 m or more in length and 5 cm 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."⁷⁴

154. The 50/50 rule as implemented by the Scaling Manual provides the basis for determining whether a lodgepole pine log is graded as Grade 2 or Grade 4.⁷⁵ The scaling system has definitions, rules and procedures for scalers to determine the volume of a log available for the manufacture of lumber, including treatment of checks (or cracks) and procedures for determining the volume lost to defects (as explained at Section F.III.5 below).⁷⁶

3. The Mountain Pine Beetle Infestation and the April 2006 Reforms

155. The mountain pine beetle is a natural part of the pine forest ecosystem in the B.C. Interior. According to the Ministry, the MPB plays an important role in the natural life cycle of lodgepole pine forests by attacking older and weakened trees that are then replaced by new healthy pine forests.⁷⁷

156. Below is a photograph of a mountain pine beetle:⁷⁸

⁷³ *Id.* ¶ 66.

⁷⁴ Scaling Regulations, B.C. Reg. 446/94, § 4 - Schedule of Interior Timber Grades (R-22); *see also* Scaling Manual (June 30, 2006), § 6.6.3.4.1 at 6-110 (R-19).

⁷⁵ Reply ¶ 81; SoD ¶ 54.

⁷⁶ SoD ¶¶ 54 *et seq.*

⁷⁷ C-3 at CAN-037154.

⁷⁸ Taken from tab 1 of Visual Aids for Respondent's Opening Statement.

The Mountain Pine Beetle



157. The current infestation of MPB reached epidemic levels largely as the result of two factors: the large amounts of older lodgepole pine on the land base and the relatively warm weather conditions experienced in recent years in the B.C. Interior.⁷⁹ Normally, the MPB spread is controlled by cold temperatures of below -25 °C in fall and spring or -40° C or below in winter which kills off most beetles and larvae. Consistent with the trend of global warming, however, average temperatures in B.C. have continued to rise. Consequently, the severe cold required to control the spread of the mountain pine beetle has not occurred since the mid-1990s when the current outbreak began.
158. As a result, the outbreak spread, with the maximum area under red stage (meaning trees that had been killed one to two years earlier) peaking in 2007.⁸⁰ The outbreak reached epic proportions not previously experienced in North America, or, apparently, anywhere in the world.⁸¹ On a provincial level, annual volume kill peaked in 2004/2005, and the

⁷⁹ C-3.

⁸⁰ SoD ¶ 89; Ebata Statement ¶ 29 (R-4).

⁸¹ Testimony of Deputy Minister Dana Hayden, Transcript, page 813, lines 4-7; page 885, lines 1-10; Claimant has not disputed these statements.

infestation has slowed since that time.⁸² The epidemic also has significant social and economic implications for B.C., as testified by Deputy Minister Dana Hayden.⁸³

a) The Effect on Host Trees

159. The MPB bores into the tree bark of lodgepole pines, where it lays its eggs. After hatching, the larvae burrow in the layer between the bark and the wood, cutting off the flow of water and nutrients to the tree, and the tree eventually dies. While under the bark, the beetle transmits a fungus that stains a tree's sapwood blue.⁸⁴



160. Neither the beetle nor the blue stain fungus directly and immediately harms the integrity of the host tree's wood fibre.⁸⁵ Rather, the blue stain fungus causes discoloration of the wood, blocks the tree's circulation and significantly increases the permeability to moisture of the wood fibre.⁸⁶

⁸² C-90; SoD ¶ 90.

⁸³ Transcript, page 813, lines 8 *et seq.*

⁸⁴ C-90, http://www.for.gov.bc.ca/hfp/mountain_pine_beetle/facts.htm (updated April 2011); the photograph is taken from Figure 6 from the SoD.

⁸⁵ SoD ¶ 75; Lewis Report ¶¶ 8, 47 (R-10).

⁸⁶ *Id.* ¶ 49 (R-10).

161. The harm to the integrity of the host tree's wood fibre occurs indirectly and over time as a result of the death of the tree. Once a tree has been killed, it begins to dry out and the cells shrink. This shrinkage causes stress which causes the wood to fracture along its vertical grain, leaving longitudinal cracks called "*checks*" in the wood. It is these fractures that primarily affect the ability to saw lumber and make other products from MPB-killed trees.⁸⁷
162. As MPB-killed pine trees remain standing, fluctuations in moisture cause the wood to pass through repeated cycles that cause additional stress on the wood and ultimately result in loosening or lost bark and further splitting along existing checks.⁸⁸

**Severe Checking In a
Tree Killed by the
Mountain Pine Beetle**



163. Eventually, most MPB-killed trees will fall and then become vulnerable to rotting and decay that compromise the wood's structural integrity and render the timber unusable for manufacturing conventional wood products.⁸⁹

⁸⁷ SoD ¶ 76; Lewis Report ¶¶ 64, 12 (R-10).

⁸⁸ SoD ¶ 77 (R-10); photograph taken from Tab 18 of Visual Aids for Respondent's Opening Statement.

⁸⁹ SoD ¶ 83; Lewis Report ¶¶ 11, 72 (R-10).

164. The stages of MPB attack can be identified by color. The "*green attack*" stage is when adult beetles have found a new host tree and tunnelled underneath the bark to lay their eggs. The tree dies soon after, but the needles stay green for several months.⁹⁰ The "*red attack*" stage is when the needles have turned red as a result of the beetles' killing the tree by mining the layer between the bark and the wood, cutting off the tree's supply of nutrients.⁹¹ The "*grey attack*" stage is when the needles have fallen off of the tree and only the bare branches remain. Grey stage trees will have been dead longer than red stage trees. The color change from green to red to grey is associated with loss of moisture.⁹²



⁹⁰ Respondent maintains that the trees "*stay green for up to a year after death.*" SoD ¶ 78.

⁹¹ Respondent states that dead pine trees typically retain their red needles for at least one full year (i.e., until two years after death) but it is common for trees to remain in the red stage for two years (i.e., until three years after death). SoD ¶ 79.

⁹² The photographs are taken from Figure 6 to Exhibit R-4 and Figures 7 and 10 to the SoD. From top to bottom, they show: (1) the foliage colour change from green attack (d) to red attack (f); (2) an aerial photo of forests in the red stage; (3) an aerial photo of forests in the grey stage.



165. By the end of 2006, the MPB had killed approximately 550 million cubic meters of lodgepole pine, and roughly two-thirds of that was killed in the period from 2004 through 2006.⁹³
166. The Ministry estimated that 692 million cubic meters of timber was killed in the B.C. Interior from 1999 through 2010.⁹⁴ The lodgepole pine killed by the MPB represents 51% of the estimated mature lodgepole pine volume on the B.C. timber harvesting land base as of 1999⁹⁵ and exceeds the volume of all lodgepole pine harvested in the B.C. Interior from 1980 through 2010. The largest volume of lodgepole pine harvested in a single year was 36 million cubic meters (in 2005).⁹⁶

b) The April 2006 Reforms Addressed the MPB Attack

167. When B.C. announced the reforms on 1 April 2006, it clarified that the purpose of the new log grades was, *inter alia*, "to better reflect the quality of timber affected by the mountain pine beetle."⁹⁷
168. B.C. further stated with respect to MPB affected timber that "[u]nder the new grades, the majority of this timber will be assessed as saw logs, recognizing their potential to produce good quality lumber. Saw log stumpage will apply."⁹⁸ Further, under the new system, "[l]ogs not capable of producing lumber will be charged minimum rates."⁹⁹
169. In an e-mail by the Canadian Forest Service dated 21 March 2006¹⁰⁰, it was further stated that the move to the new grading system was

largely driven by the need to ensure beetle wood is appropriately priced. Under the old log grading rules beetle wood received the statutory minimum stumpage of 25 cents/m³. Under the new grading system the majority of the wood moves into one of two sawlog grades which receive full stumpage. The move is revenue neutral for the BC government in that total stumpage will not go up. However, there will be a large redistribution of payments with sawmills using beetle killed wood paying far more and all others paying less.

⁹³ SoD ¶ 90.

⁹⁴ SoD ¶ 91.

⁹⁵ *Id.*

⁹⁶ SoD ¶ 90, 91.

⁹⁷ See Press release (C-22 at CAN-000420).

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ C-20.

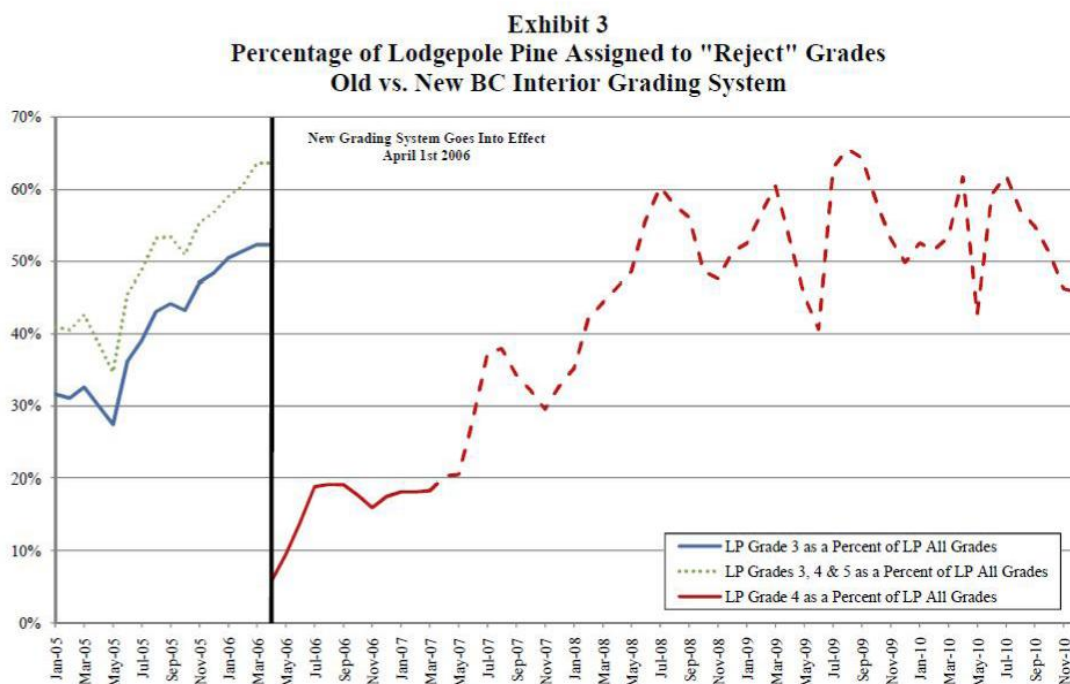
*This move will also address US and eastern Canada concerns that BC must address the beetle wood issue as part of any negotiated settlement.*¹⁰¹

170. The documents show that the April 2006 reforms were aimed at taking into account the MPB infestation and allowing appropriate grading of MPB-killed timber.

¹⁰¹ C-20.

II. Summary of the Parties’ Positions on the Background of the Dispute

171. Before turning to Claimant’s claim, the Tribunal will summarize the Parties’ positions on the factual background of the case. As mentioned, at the core of the dispute is the significant rise in the percentage of Grade 4 in the lodgepole pine timber harvest following the April 2006 reforms, and the reasons for such rise. Much of the discussion on this issue in these proceedings centered around the following chart that was attached as Exhibit 3 to Dr. Jonathan Neuberger’s Expert Witness Report of 9 August 2011:¹⁰²

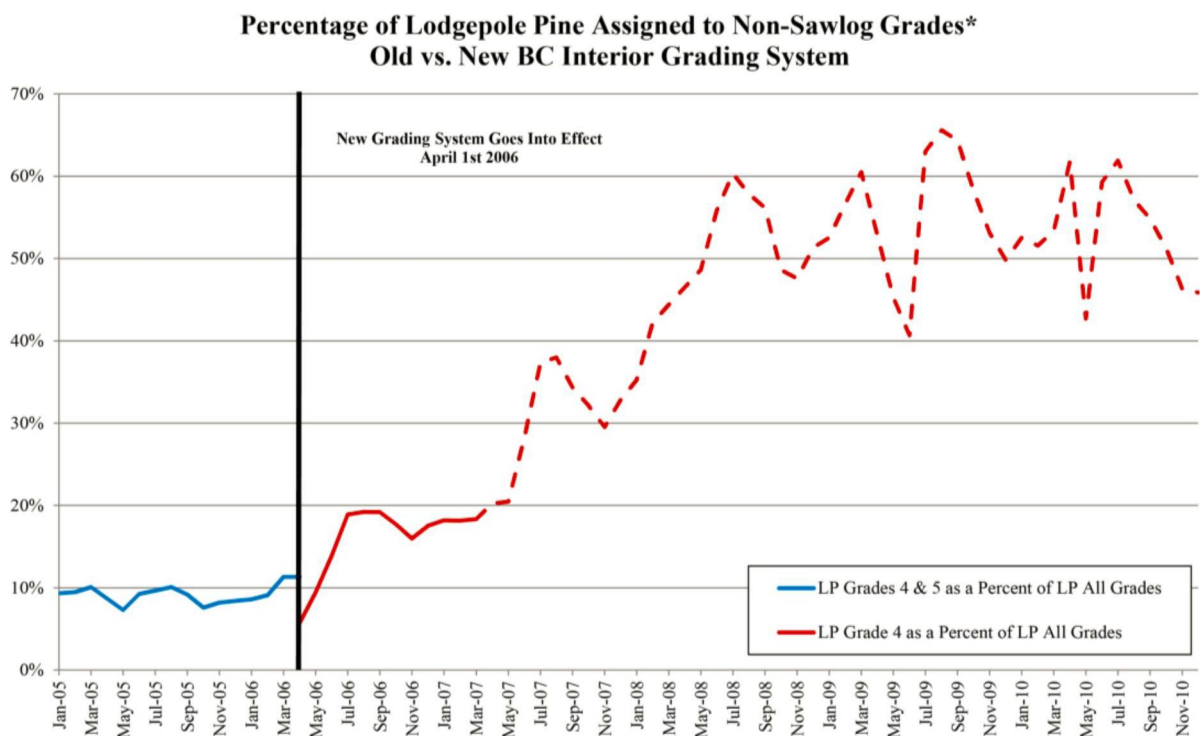


Notes:
 1. The following months have incomplete data in the Harvest Billing System and are not depicted on the chart: April 2005, April 2008, and April 2009.
 2. Chart depicts "reject" grades for lodgepole pine ("LP"), by scale date, for BC Interior.
 3. The solid portion of the red line represents the first year under the new grading system.
 Source: Ministry of Forests Harvest Billing System, Mark Monthly Scaling History Reports from 2005 - 2010. Accessed June 13, 2011.

172. This chart shows the percentage of lodgepole pine assigned to Grade 3 (blue line) and Grades 3, 4 and 5 combined (dotted green line) prior to the April 2006 reforms as well as the percentage of lodgepole pine assigned to Grade 4 after the April 2006 reforms (red line).

¹⁰² C-2.

173. During Closing Argument, Claimant submitted a modified version of this Demonstrative showing that for the period before the April 2006 reforms the percentage of the old Grades 4 and 5 combined, i.e., the “*lumber reject*” under the old grade definitions (see above at paragraph 142), was in the region of 10 % of all grades. This is only slightly above the percentage of the new Grade 4 after the April 2006 reforms, i.e., “*lumber reject*” under the new grade definitions (Demonstrative 1 to Claimant’s Closing Statement):



174. Even though Respondent has criticized the reliability of the data underlying Claimant’s charts, the increase of lodgepole pine assigned to Grade 4 starting in May 2007 as such is not disputed between the Parties.¹⁰³ What the Parties disagree about is the reason for this increase.

¹⁰³ Transcript, page 1642, line 20.

1. Claimant’s Position: The Increase of Grade 4 Starting in 2007 Was Due to Misgrading

175. It is Claimant’s position that the increase of lodgepole pine assigned to Grade 4 was the result of a large volume of lodgepole pine being misgraded as Grade 4 even though this timber should have passed the 50/50 test and as such should have been assigned a sawlog grade, Grade 1 or Grade 2.

176. The changing profile of the MPB harvest was expected and accounted for in the April 2006 reforms. Claimant submits that the above chart demonstrates that shortly after B.C. adopted the April 2006 reforms, the percentage of lodgepole pine timber sold at the minimum stumpage fee dropped significantly, as expected. According to Claimant, this shows that between April 2006 and May 2007, B.C. lumber producers appear to have paid the variable sawlog prices for beetle-affected timber, as envisaged by the April 2006 reforms.¹⁰⁴ According to Claimant, the reformed system therefore functioned as anticipated for nearly one year, during which the level of lumber reject timber in the pine harvest was not significantly greater than the lumber reject share experienced prior to implementation of the April 2006 reforms.¹⁰⁵ Claimant submits the following statistics to support this position:¹⁰⁶

Timber sold for minimum stumpage fee		
6 months prior to April 2006 reform	Grade 3	43.1 - 52.3 %
6 months prior to April 2006 reform	Grade 3 plus Grades 4 and 5	50.9 - 63.6 %
6 months after April 2006 reform	Grade 4	5.7 - 19.2 %
6-month period ending April 2007	Grade 4	16.0 -18.4 %

177. Claimant emphasizes that it was only subsequently, starting in May 2007, that the amount of Grade 4 lodgepole pine suddenly more than doubled, rising to 44.4 % in March 2008. Then, from 2008 through 2010, about 55 % of the B.C. lodgepole pine harvest was classified as Grade 4 timber.¹⁰⁷

¹⁰⁴ C-PHB ¶¶ 52 *et seq.*; SoC ¶ 58.

¹⁰⁵ C-PHB ¶ 53; SoC ¶¶ 58-60.

¹⁰⁶ SoC ¶ 59.

¹⁰⁷ SoC ¶ 61; C-2 at Ex. 3.

a) No Reason for the Increase in Grade 4 Except Misgrading

178. Claimant argues that this increase and the speed with which the share of timber sold for the minimum stumpage rates returned to pre-April 2006 levels evidences Respondent's failure to honour its obligations under the SLA.¹⁰⁸
179. Claimant points out that the increase occurred despite the consideration and testing that preceded the introduction of the new grading system and the new MPS introduced shortly thereafter.¹⁰⁹ Both the April 2006 reforms and the new MPS were designed to allow a more market-oriented approach to the sale of timber, and took account of the effects of the MPB infestation.¹¹⁰ According to Claimant, under the new system, the vast majority of MPB timber was expected to be sawlog quality and priced according to the variable stumpage rate.¹¹¹
180. Nevertheless, and despite Respondent's comprehensive knowledge on the effects of the MPB infestation and its concession that the volume of dead and dry timber had peaked, as expected, in 2007,¹¹² the share of Grade 4 quickly returned to pre-reform levels starting in 2007. Claimant submits that nothing, other than the North American housing market, changed in early 2007 which would explain the rise.
181. Claimant submits that Respondent's only attempt at such an explanation, i.e., that B.C. producers started harvesting MPB-killed timber that had been dead for more than two years and as such was more susceptible to damages reducing its quality, is in fact no explanation. Claimant, relying on the data of Respondent's expert Professor Katherine Lewis,¹¹³ emphasizes that while the number of trees without checks declined to around 60 % within the first two years after death, it then remained steady for several years after that. The percentage of check-free trees fell significantly (from 60 % to 20 %) only much later, i.e., more than seven years after death.¹¹⁴

¹⁰⁸ C-PHB ¶ 1; SoC ¶ 61.

¹⁰⁹ C-PHB ¶ 22.

¹¹⁰ C-PHB ¶ 23 *et seq.*; C- PHB ¶¶ 45, 49.

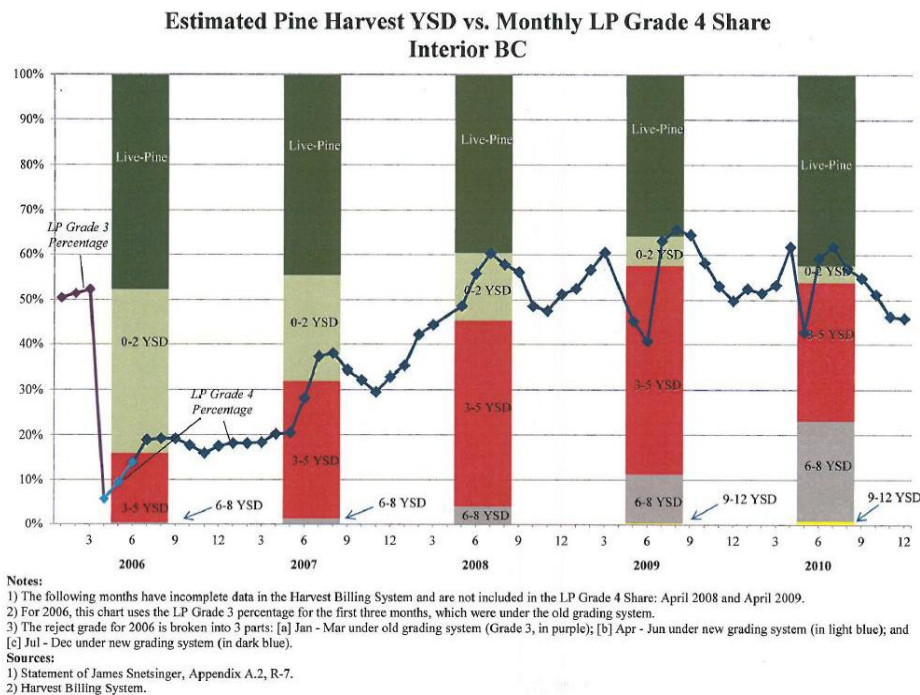
¹¹¹ C-PHB ¶ 24.

¹¹² Reply ¶ 73.

¹¹³ C-PHB ¶¶ 57 *et seq.*

¹¹⁴ Reply ¶ 58; R-10 ¶ 57.

182. Claimant supports its position with the following chart¹¹⁵ which, according to Claimant, shows that the increase of the share of Grade 4 does not correlate to the share of trees dead for more than two years. Rather, the percentage of Grade 4 even reaches that part of the harvest which was still alive when harvested:



DEMONSTRATIVE 1

183. Claimant argues that this shows that there is no correlation between the rise in Grade 4 and the MPB-killed trees. Hence, Claimant submits, the rise in longer-dead timber cannot explain the increase in Grade 4.¹¹⁶ Rather, based on the harvest profile from 2006 to 2010, which showed an increasing share of “longer-dead” MPB timber after 2006, a fact which Claimant acknowledges,¹¹⁷ most of the pine harvest nevertheless should have been Grade 1 or 2 because during that period, most of the pine harvest was five or fewer years dead.¹¹⁸

¹¹⁵ Claimant’s Opening Statement Demonstrative 1

¹¹⁶ C-PHB ¶ 2.

¹¹⁷ C-PHB ¶¶ 78, 79.

¹¹⁸ C-PHB ¶ 79.

184. Claimant also disputes Respondent's salvage theory (*see* paragraph 210) and alleges that, in reality, B.C. producers began to selectively take the best and most profitable logs to the mills and leave the lowest quality logs and log segments behind in the forest.¹¹⁹ According to Claimant, the amount of waste logs therefore increased from just under 200,000 cubic meters in 2004 to nearly 700,000 cubic meters by 2007.¹²⁰
185. In reality, Claimant concludes, the effect of the MPB attack is merely to "*reduce modestly the quality of lumber within the definition of 'merchantability'.*"¹²¹ This is what, according to Claimant, the April 2006 reforms explicitly accounted for by making downward adjustments in the price of Grade 1 and 2 sawlogs.¹²² Claimant points to B.C.'s 2005-2010 mountain pine beetle action plan which states that "*[t]he damaged timber retains most or all of its 'green' value for some time before beginning to split and decay. Timber will be priced in a manner that reflects its market value, providing revenue to the province and encouraging a competitive industry*"¹²³ and that "[b]y design, then, the new system established a variable price for sawlogs that is sensitive to the effects of the mountain pine beetle."¹²⁴

b) Constant Lumber Yields Confirm B.C.'s Underpricing

186. Claimant submits that its case is confirmed by the actual lumber output in the B.C. Interior during the critical time, which remained constant despite the MPB attack.
187. Claimant claims that the B.C. scaling system is by definition related to output.¹²⁵ Both prongs of the 50/50 rule specifically require an assessment of the likely output of a particular log. Claimant refers to the Scaling Manual which specifies that application of the grading rules requires the scalers 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 Accordingly, Claimant submits, the Scaling Manual makes

¹¹⁹ Reply ¶ 112.

¹²⁰ *Id.*; C-107 ¶¶ 22-23, Fig. 3.

¹²¹ SoC ¶ 51.

¹²² C-PHB ¶ 25.

¹²³ C-23 at CAN-037138.

¹²⁴ SoC ¶ 52.

¹²⁵ Reply ¶ 90.

¹²⁶ Reply ¶ 95; C-50 at CAN-008442.

clear that scalers need to consider both the quantity and quality of lumber that can be recovered from each log.¹²⁷

188. Claimant explains that while specific business decisions by sawmills might affect the precise recovery, it is not possible to process a Grade 4 log so as to produce enough merchantable lumber to satisfy the 50/50 test. If this happens, the log was misgraded.¹²⁸
189. According to Claimant, this is what the data on lumber output in the relevant period show: Claimant submits that the percentage of logs harvested in the B.C. Interior that were in fact used to make lumber declined by no more than four to five percent from 2006 to 2009 and remained over 80 % even at the end of that period. Similarly, the share of logs not suitable to produce merchantable lumber merely increased from 16 % in 2006 to 19.5 % in 2009, an increase of about 3.5 %. During the same time, however, the share of logs assigned to Grade 4 increased from about 16 % to approximately 66 %. According to Claimant, the numbers simply do not add up.¹²⁹
190. Claimant further refers to the studies commissioned by B.C.'s Forestry Innovation Investment Ltd. ("**FI**"), a provincial government agency.¹³⁰ These studies analysed production at four lumber mills, Princeton, Vanderhoof, Quesnel and Prince George, to determine the difference in volume and value of lumber recovered from MPB-killed grey-stage logs compared to fresh green logs¹³¹ (the "**Mill Studies**"). According to Claimant, the Mill Studies confirm that the vast majority of MPB timber should meet the 50/50 test.¹³²
191. Claimant explains that the Mill Studies, during the period of 2006-2010, showed only a small reduction in lumber recovery and value of the lumber for MPB-killed timber as compared to that of green logs.¹³³ These Studies confirmed that most MPB timber is suitable to be made into lumber and should be Grades 1 and 2 until it is at least seven to eight years dead. The findings of the Mill Studies are summarized in the following table:

¹²⁷ Reply ¶ 95; C-50 at CAN-008444; CAN-008447; CAN-008458.

¹²⁸ Reply ¶ 83.

¹²⁹ Reply ¶ 38.

¹³⁰ SoC ¶ 79.

¹³¹ *Id.*

¹³² C-PHB ¶¶ 71 *et seq.*

¹³³ SoC ¶ 91.

Mill Study	Lumber recovery (grey-stage logs compared to green logs)	Recovery loss	Lumber value (grey-stage logs compared to green logs)	Value loss	Combined loss
Princeton	98.5%	1.5%	85.9%	14.1%	15.6%
Vanderhoof	87.5%	12.5%	94.3%	5.7%	17.5%
Quesnel	92.9%	7.1%	76.5%	23.5%	29.0%
Prince George	91.8%	8.2%	88.1%	11.9%	19.0%

192. On this basis, Claimant submits that even grey-stage timber dead for five or more years can produce lumber of comparable volume as green stage trees with only a small loss of value. Accordingly, Claimant concludes, lumber recovery and value recovery may decrease in grey-stage timber, but not nearly enough to explain the increase in the amount of timber designated Grade 4 from 2007 onward.¹³⁴
193. Claimant disputes Respondent’s attempted explanation that enhanced mill technology has allowed mills to produce more merchantable lumber out of Grade 4 timber (*see* paragraph 221). If technology in mills is such that a log can be made into more merchantable lumber, then that log now passes the 50/50 test and is not a Grade 4.¹³⁵ In addition, Claimant claims, many of the technological improvements which Respondent relies on were in place prior to the alleged increased recovery from low quality logs.¹³⁶
194. Claimant denies Respondent's further explanation that B.C. mitigated the effects of the unanticipated rise in Grade 4 timber by developing a market for low-quality lumber in China, the production of which factors into the data on lumber output (*see* paragraph 221). Claimant claims that the increase on which Respondent relies did not take place until 2010.¹³⁷ As regards the relevant time period from 2007 to 2009, Respondent has presented no evidence establishing that B.C.'s exports to China absorbed an influx of low-quality timber.

¹³⁴ Reply ¶ 68.

¹³⁵ Reply ¶ 101.

¹³⁶ *Id.* and Reply ¶ 104.

¹³⁷ Reply ¶ 124.

195. In summary, Claimant submits, B.C.'s own data regarding the MPB outbreak, the actual lumber recovery as well as the Mill Studies all confirm that the MPB epidemic was in fact not the reason for the increase in the share of Grade 4, but that the true reason was the misgrading of MPB timber.¹³⁸
196. According to Claimant, this conclusion is not refuted by the regression analysis of Respondent's expert witness Professor Joseph Kalt which, Claimant submits, offered no direct evidence that the sharp rise in the share of Grade 4 was or was not the result of misgrading.¹³⁹ Claimant contends that Professor Kalt's analysis of a relationship between the MPB attack and Grade 4 is based on the idea that red attack timber dead for only one to two years should be Grade 4, which is unsupported by any scientific data.¹⁴⁰ In addition, Claimant argues, the analysis suffers from a number of technical problems and fails to even consider misgrading as an explanation for the increase in Grade 4.¹⁴¹

2. Respondent's Position: The Increase of Grade 4 Is Directly Attributable to the MPB Epidemic

197. Respondent submits that only because Claimant's expert witness Dr. Jonathan Neuberger cannot explain the increase in the percentage of Grade 4 in B.C.'s pine harvest, Claimant asks the Tribunal to draw an inference, based on the speculation of Dr. Neuberger, that this increase "*must have*" resulted from the deliberate misgrading of timber.¹⁴² Respondent refers to this as Claimant's "*inferential*" case.¹⁴³ According to Respondent, this case fails to establish the most basic element of a circumvention claim, i.e., that a government action caused the misgrading of logs.¹⁴⁴
198. Respondent further explains that Claimant's entire case rests on a misconception of the 50/50 rule and the erroneous assumption that an increase in Grade 4 harvest unaccompanied by a significant decline in lumber recovery demonstrates misgrading.¹⁴⁵ According to Respondent, it has been established that the increase in Grade 4 has a more plausible, well-documented and natural explanation than misgrading: The increase

¹³⁸ SoC ¶ 91, Reply ¶ 9.

¹³⁹ C-PHB ¶ 153.

¹⁴⁰ C-PHB ¶ 158.

¹⁴¹ C-PHB ¶¶166 *et seq.*, 171 *et seq.*

¹⁴² R-PHB ¶¶ 24, 4-6.

¹⁴³ R-PHB ¶ 2; SoD ¶ 1.

¹⁴⁴ R-PHB ¶ 46.

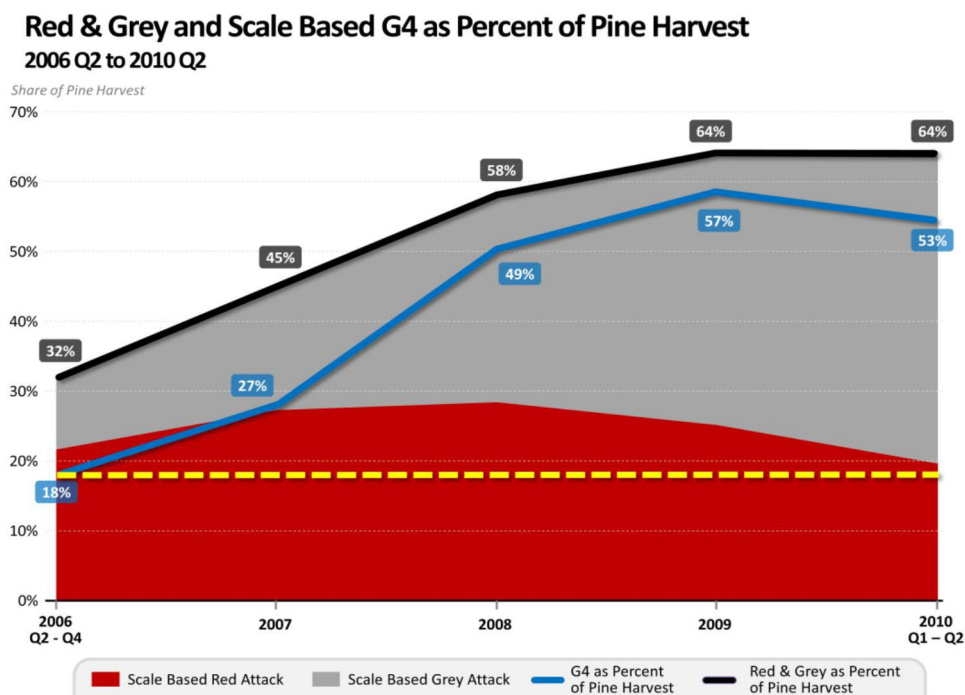
¹⁴⁵ SoD ¶ 128.

occurred as a direct result of the deterioration of the quality of the timber harvested in the B.C. Interior following the massive kill-off by the MPB epidemic.¹⁴⁶

a) The MPB Epidemic Is the Reason for the Rise in Grade 4

199. Respondent claims that it has demonstrated the connection between the MPB infestation and the rise in the volume of Grade 4 timber in the B.C. Interior by showing that: (1) checking is relevant to the application of the 50/50 test; (2) checks are the most significant form of deterioration affecting MPB-killed timber; (3) most MPB-killed logs exhibit significant checking by approximately two to three years after death of the tree; and (4) the percentage of logs graded as Grade 4 closely tracks the percentage of logs harvested three or more years after death.¹⁴⁷

200. Respondent relies on a number of charts which allegedly show this consistency. First, Respondent refers to the following chart¹⁴⁸ which shows that the increase in the percentage of Grade 4 timber between 2007 and 2009 corresponded to the increase of the lodgepole pine harvest classified as red or grey stage:¹⁴⁹



¹⁴⁶ R-PHB ¶ 10.

¹⁴⁷ Rejoinder ¶ 157.

¹⁴⁸ R-PHB Figure 8.

¹⁴⁹ R-PHB ¶ 13.

201. Respondent explains that when an MPB-attacked tree dies, the wood commences to dry out and deteriorate; as the number of years between death and harvest increase, the likelihood that an MPB-killed tree will exhibit checks increases, as does the likelihood that the checks will be severe.¹⁵⁰ This means, according to Respondent, that the frequency and severity of checks increases from early red stage, to late red stage, to grey stage.¹⁵¹
202. According to Respondent, this is confirmed in the United States Forest Service's position on the effect of MPB attacks, which states: "*beetle-killed timber quickly loses its commercial value for saw timber due to rot and checking (i.e., cracks). This typically occurs within 3-5 years following infestation.*"¹⁵²
203. On this basis, Respondent argues that pursuant to the grandfathered log scaling system, which provides that the volume of a log containing checks (plus a standard trim allowance of two centimeters around each check) counts as volume not available to manufacture lumber, the increasing share of grey stage pine in the harvest necessarily resulted in an increasing percentage of Grade 4.¹⁵³
204. Respondent concludes that this consistency in the data refutes Claimant's assertion that B.C. acted to sever the connection between log grades and log quality.¹⁵⁴ Rather, according to Respondent, the evidence shows a strong correlation between the share of lodgepole pine harvested more than two years after death and the share of Grade 4.¹⁵⁵ According to Respondent, this is illustrated in the chart below.¹⁵⁶
205. On the basis of this relationship between years-since-death and Grade 4, Respondent submits, it is reasonable to expect also a relationship between the effects of the MPB and the levels of Grade 4.¹⁵⁷

¹⁵⁰ SoD ¶ 157.

¹⁵¹ SoD ¶ 154.

¹⁵² SoD ¶ 82; U.S. Forest Service, Bark Beetle Incident Implementation Plan, at 7 (Aug. 29, 2007) (R-124).

¹⁵³ SoD ¶ 155.

¹⁵⁴ SoD ¶ 159.

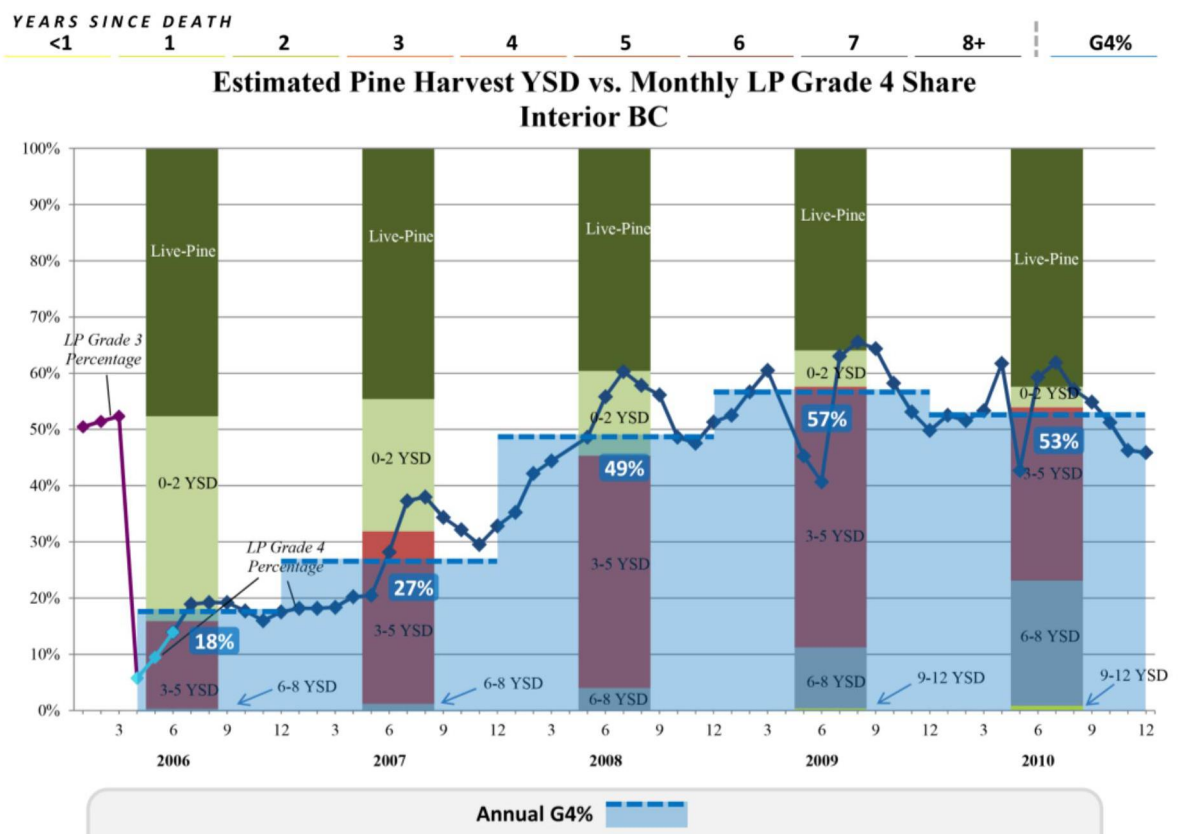
¹⁵⁵ R-PHB ¶¶ 13, 97.

¹⁵⁶ R-PHB Figure 9.

¹⁵⁷ R-PHB ¶ 97.

206. According to Respondent, the demonstrated correlation between the share of Grade 4 harvest and years-since-death is not refuted by Claimant’s Opening Demonstrative 1. Respondent explains that this Demonstrative attempts to sever such link by comparing the *monthly* levels of Grade 4 with the *annual* harvest profile showing the years-since-death. However, Respondent submits, harvest volumes and grade distributions vary greatly from month to month. Respondent explains that this distortion, which is at the heart of Claimant’s argument, is revealed in the below, third graph (Figure 9 to Respondent’s Post-Hearing Brief) in which Demonstrative 1 is overlaid by the *annual* shares of Grade 4 (in light blue) to correspond with the annual years-since-death data:¹⁵⁸

Years Since Death as a Percent of Pine Harvested



¹⁵⁸ R-PHB ¶ 103; R-PHB Figure 10.

207. According to Respondent, this shows that the share of Grade 4 closely tracks the share of the harvest which has been dead for more than two years, and confirms Respondent's submissions on Figure 9 to its Post-Hearing Brief.¹⁵⁹
208. Both of the above charts, Respondent submits, provide reinforcing support for a causal connection between the deterioration of the timber supply and the increase of the share of Grade 4 in the pine harvest.¹⁶⁰
209. According to Respondent, this finding is confirmed in the statistical analysis of Professor Joseph Kalt.¹⁶¹ Professor Kalt concluded, based on his analysis, that the strong and consistent correlation demonstrated in the data supports the existence of the relationship between timber deterioration and levels of Grade 4. Respondent emphasizes that Professor Kalt tested whether this causal relationship failed at any stage where Claimant alleges that Respondent caused misgrading but found no breaks in the explanatory power of the natural causes.¹⁶²
210. In addition, Respondent submits that a change in policy of how to deal with the MPB disaster further contributed to the rise in Grade 4 timber. By 2005, it became clear that efforts to contain and suppress the massive beetle populations had proven insufficient, and the approach to MPB shifted from control to salvage, resulting in large amounts of MPB attacked timber being harvested.¹⁶³ As a result, the share of pine in the annual B.C. Interior harvest increased relative to other species. It represented about 46 % in 2000, but had grown to 65 % by 2006.¹⁶⁴
211. Finally, Respondent explains that contrary to Claimant's allegation, 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.¹⁶⁵ Respondent does not deny that one of the objectives of the April 2006 reforms and the MPS was to better address the problems presented by MPB-killed timber.¹⁶⁶ However, with the peak of the attack occurring in

¹⁵⁹ R-PHB ¶ 103.

¹⁶⁰ R-PHB ¶ 13.

¹⁶¹ R-PHB ¶¶ 13, 95.

¹⁶² R-PHB ¶ 95.

¹⁶³ SoD ¶ 96; Snetsinger Statement ¶¶ 40-44 (Ex. R-7); Hayden Statement ¶¶ 25-29 (R-6); [] ¶ 10 (Ex. R-5).

¹⁶⁴ SoD ¶ 97.

¹⁶⁵ SoD ¶ 103.

¹⁶⁶ R-PHB ¶ 58.

2004 and 2005, beetle-killed trees harvested in 2005 (when the new log grades were tested) and in 2006 (the first year of the SLA) had been dead for no more than a year or two.¹⁶⁷ Respondent claims that the characteristics of the logs entering the scale sites changed after April 2006.¹⁶⁸ The longer-dead wood was dryer and exhibited more checking than the freshly-killed wood on which the April 2006 log grades had been developed and tested.¹⁶⁹

212. Other than the mere expectation that dead lodgepole pine would represent an increasing share of the harvest, B.C. officials therefore only had a limited understanding of the effects that the MPB would have on the harvest when the April 2006 reforms were introduced.¹⁷⁰ The true effects of the MPB infestation were therefore not incorporated in and covered by these reforms.

b) Claimant's Reliance on Lumber Output Is Misconceived

213. Claimant's reliance on lumber volume, output and quality is misplaced, according to Respondent, and cannot prove misgrading.¹⁷¹ Respondent argues that Claimant's case rests on the misconception that the 50/50 test is a system that predicts actual product output.¹⁷² However, the 50/50 test is a benchmark for assessing the physical characteristics of logs, not a mechanism to connect log grades to eventual lumber production.¹⁷³ The B.C. log scaling regime was not designed to be, and has never been, predicative of actual lumber recovery.¹⁷⁴ Rather, scalers classify logs based on their quality, and *express* it in terms that relate to the log's *potential* for lumber production.¹⁷⁵

214. The profound principle which Claimant disregards, according to Respondent, is that under the 50/50 test, the grade of a log is assigned – and is either accurate or inaccurate – *at the time of scaling*, before the log is processed. Any subsequent choices by a mill operator about how to process the log cannot change its grade.¹⁷⁶

¹⁶⁷ SoD ¶ 103.

¹⁶⁸ SoD ¶ 137.

¹⁶⁹ SoD ¶ 106; Crover Statement ¶ 68 (R-3).

¹⁷⁰ SoD ¶ 105.

¹⁷¹ R-PHB ¶¶ 62 *et seq.*

¹⁷² Rejoinder ¶ 38; Reply ¶¶ 67, 83.

¹⁷³ Rejoinder ¶ 38; SoD ¶¶ 54-57, 249-250.

¹⁷⁴ SoD ¶ 56.

¹⁷⁵ Rejoinder ¶ 53.

¹⁷⁶ Rejoinder ¶ 52; Scaling Regulations, B.C. Reg. 446/94 (R-160); § 2; Forest Act, R.S.B.C. 1996, c. 157, Part 6, § 94 (R-20).

215. Claimant's contrary position, according to Respondent, misconstrues both the SLA's Article XVII(2)(a) grandfathering provision and the system that the Parties agreed to grandfather.¹⁷⁷ In particular, Respondent refutes Claimant's position that the volume of lumber produced from a Grade 4 log cannot exceed 50 % of the volume of the log.¹⁷⁸
216. First, Respondent emphasizes that Interior sawmills did not even recover more than 50 % of log volume when the majority of logs processed were Grades 1 and 2.¹⁷⁹
217. Second, Respondent explains that the structure of the 50/50 test means that an accurately classified Grade 2 log could have as little as 25 % of its volume available to manufacture merchantable lumber. At the same time, an accurately classified Grade 4 log could have as much as 49 % of its volume available to manufacture merchantable lumber.¹⁸⁰ According to Respondent, it is consistent with the 50/50 test that a Grade 4 log can produce more merchantable lumber than a Grade 2 log. Claimant's assumption that lumber output volumes must decline at rates directly proportional to the increases in the number of logs that fail the 50/50 test therefore defies logic, according to Respondent.¹⁸¹ Respondent emphasizes that nothing in the SLA or the grandfathered system makes it illegal or improper to make lumber out of Grade 4 logs.¹⁸²
218. Third, Respondent points out that "*lumber reject*" logs have been assessed the minimum stumpage fee since long before the SLA came into force, and that sawmills have always been free to produce lumber from such logs to the extent possible.¹⁸³ This practice can therefore not amount to circumvention of the SLA.
219. Fourth, Respondent emphasizes that the 50/50 rule was not changed by the April 2006 reforms or by negotiations of the SLA, or during the period since the SLA has been in force.¹⁸⁴ Rather, it has been the same prior to and after 1 July 2006 and is explicitly grandfathered. Its application can therefore not be a breach of the SLA.

¹⁷⁷ Rejoinder ¶ 40.

¹⁷⁸ Rejoinder ¶ 84; Reply ¶¶ 91, 95.

¹⁷⁹ Rejoinder ¶ 85; Reply ¶ 95.

¹⁸⁰ Rejoinder ¶ 66; SoD ¶ 60.

¹⁸¹ Rejoinder ¶ 73.

¹⁸² R-PHB ¶ 15.

¹⁸³ Rejoinder ¶ 83; Scaling Manual (June 30, 2006), § 6.3 at 6-5 (R-19).

¹⁸⁴ Rejoinder ¶ 39.

220. Respondent further points out that lumber recovery is variable and sensitive to product choices, mill technology and other factors that have nothing to do with the quality of a log.¹⁸⁵ Respondent argues that it is precisely this variability that makes it impossible to draw any reverse conclusions on log grades from lumber recovery data.¹⁸⁶ For this reason, Respondent submits, also the Mill Studies relied upon by Claimant are not conclusive as Claimant's reliance on these Studies fully depends on the erroneous premise that lumber recovery provides evidence of correct log grading.
221. Finally, Respondent submits that the increasing share of MPB-killed logs which was processed by Interior sawmills did adversely affect the quantity and value of lumber output between 2004 and 2010.¹⁸⁷ Respondent emphasizes, however, that the output would have suffered far more from the effects of the MPB had it not been for substantial investments in mill technologies that increased both volume and value recovery.¹⁸⁸ In addition, Respondent submits, B.C. also managed to open up a new market in China for low-quality lumber with significant checking.¹⁸⁹ These sales factored into the lumber recovery data relied upon by Claimant, but cannot change the grade of the timber used to produce the lumber.

¹⁸⁵ Rejoinder ¶ 189; Reply ¶¶ 82-83.

¹⁸⁶ Rejoinder ¶ 189.

¹⁸⁷ Rejoinder ¶ 193; [] ¶¶ 6-7 (R-147).

¹⁸⁸ SoD ¶¶ 187 *et seq.*; Rejoinder ¶¶ 188 *et seq.*; R-PHB ¶ 73 *et seq.*

¹⁸⁹ SoD ¶¶ 177 *et seq.*; Rejoinder ¶¶ 232 *et seq.*

F. ANALYSIS

I. Preliminary Issues

1. Jurisdiction

222. The dispute was referred to arbitration by virtue of Article XIV(6) of the SLA, which provides that:

[i]f the Parties do not resolve the matter within 40 days of delivery of the request for consultation, either Party may refer the matter to arbitration by delivering a written Request for Arbitration to the Registrar of the LCIA Court. The arbitration shall be conducted under the LCIA Arbitration Rules in effect on the date the SLA 2006 was signed, irrespective of any subsequent amendments, as modified by the SLA 2006 or as the Parties may agree, except that Article 21 of the LCIA Rules shall not apply.

223. Claimant and Respondent held consultations pursuant to Article XIV of the SLA regarding Claimant's claim, but were not able to resolve their dispute.

224. The jurisdiction of the Tribunal has not been disputed by the Parties. The Tribunal has also confirmed independently its jurisdiction to decide the Parties' dispute.

2. Governing Law

225. The Parties are in agreement that this arbitration is governed by the SLA as *lex specialis* and applicable international law, including customary international law applicable to the interpretation of treaties.¹⁹⁰ Customary international law on the interpretation of international agreements between state parties is codified in Article 31 of the Vienna Convention on the Law of Treaties, May 23, 1969, 1155 U.N.T.S. 331 ("VCLT").¹⁹¹ Article 31(1) of the VCLT provides that that "[a] treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in light of its object and purpose." In discussing Article 31, the

¹⁹⁰ SoC ¶ 19; SoD ¶ 109.

¹⁹¹ *Id.*; CA-1.

International Court of Justice has recognized that "[i]nterpretation must be based above all upon the text of the treaty."¹⁹²

226. The VCLT, in Article 32, permits use of:

supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meaning resulting from the application of article 31, or to determine the meaning when the interpretation according to article 31 leaves the meaning ambiguous or obscure; or (b) leads to a result which is manifestly absurd or unreasonable.

227. The Tribunal will decide the dispute on this basis.

3. Weight of Previous Awards

228. As regards the weight of the previous awards rendered under the SLA, the Tribunal is of the view that they have not the effect of *res iudicata* or collateral estoppel with respect to the matters before this Tribunal. Like the tribunal in LCIA case no. 81010, this Tribunal finds that it is not bound by any of these decisions.¹⁹³ On the other hand, it shares the view of the tribunal in LCIA case no. 81010 that it must pay due consideration to earlier decisions of other international tribunals, in particular when they are issued under the same treaty.¹⁹⁴

II. Analysis of Claimant's Claim

1. The Development of Claimant's Claim

229. Claimant has developed its case in the course of this arbitration. In the SoC, Claimant argued its case as follows (SoC ¶¶ 61, 63, 71/78, 95 *et seq.*):

[¶ 63:] *BC's commitment to the new grading and pricing reforms did not last. As the downturn in the housing market in the United States and the accompanying decrease in lumber prices accelerated, the volume of timber assigned Grade 4 and*

¹⁹² SoC ¶ 19; CA-3, Territorial Dispute (Libyan Arab Jamahiriya v. Chad), 1994 I.C.J. 6, 20 (February 3).

¹⁹³ The parties in LCIA case no. 81010 had expressly agreed that the previous decisions rendered under the SLA did not bind the tribunal in case no. 81010, see ¶ 123 of the LCIA 81010 Award.

¹⁹⁴ LCIA 81010 Award ¶ 127.

sold for the fixed minimum stumpage fee began to rise dramatically. Over the course of one year, the amount of Grade 4 lodgepole pine more than doubled, beginning at 20.2 percent in April 2007 and rising to 44.4 percent by March 2008. From 2008 through 2010, about 55 percent of the BC lodgepole pine harvest was classified as Grade 4 ‘reject’ timber. The remarkable speed with which the share of timber sold for the minimum stumpage rates returned to pre-April-2006 levels highlights Canada’s failure to honor its obligations under the SLA.

[¶ 63:] Canada's failure to correctly grade and price MPB timber is confirmed by the lumber yields coming out of BC's Interior in and after 2007. If the large increase in Grade 4 since 2007 were the result of the correct application of the 50/50 rule, the increase would necessarily correlate with a large increase in either the share of logs that were unsuitable for lumber production; an increase in the share of lumber produced from these logs that was not merchantable; or a combination of the two. In other words, a significant increase in Grade 4 timber, if BC were grading the timber correctly, would necessarily result in a corresponding, measurable, and likely substantial decrease in either the quantity or quality of lumber produced in BC. But the data on timber harvest and lumber production in the BC Interior for this period demonstrate exactly the opposite, namely that BC has been misgrading large volumes of lumber-quality timber, in breach of the SLA.

[¶ 71/78:] [...] To date, however, Canada has provided no plausible explanation for BC's reversion to the pre-April 2006 grading and pricing practices, or the resulting windfall that BC has bestowed on lumber producers by selling them lumber-quality timber at the minimum stumpage fee. [...] Canada's own documents demonstrate that the increase in Grade 4 has no relationship to increases in mountain pine beetle damage.

[¶¶ 95 et seq:] Canada, through BC, circumvented the SLA by underpricing and selling lumber-quality timber for the minimum stumpage fee, a price well below the variable price required by the BC Interior System grandfathered by the SLA, and certainly not a price that moved in the direction of better reflecting market conditions. BC then changed the provincial timber grading and scaling System in ways that ensured that large amounts of timber were misclassified as Grade 4 ‘lumber reject’ and sold at the minimum stumpage rate. These modifications breached the SLA.

The Interior timber pricing System grandfathered by the SLA requires that timber be graded and priced according to its suitability for lumber. BC changed its System by applying substitute practices and rules that do not assess lumber suitability. In other words, as a result of BC's actions, timber that actually meets the 50/50 rule has been graded as if it fails to meet that rule. For example, BC invited lumber producers to use 'local knowledge' and be creative in ways to detect defects in logs, thus increasing the likelihood of the logs' being misgraded as Grade 4, regardless of whether they meet the 50/50 rule. After soliciting these new ideas, BC further: (i) amended its scaling manual without testing or validating the new ideas; (ii) allowed for industry-generated practices called 'bucking' and 'kiln warming' that illegitimately inflated the share of Grade 4 timber; and (iii) permitted the BC lumber industry to defy and modify in practice BC's own scaling procedures to increase the share of Grade 4 timber. These modifications all succeeded in making logs more likely to be misgraded as Grade 4. This increased likelihood of logs being misgraded as Grade 4 was a benefit to BC softwood lumber producers and exporters.

These actions by BC alone would not necessarily be deemed a circumvention of the SLA, had Canada shown that the changes and practices were part of a move toward market pricing or reflected market conditions. But Canada has failed to make any showing of this kind, and, indeed, BC implemented these changes without any of the rigorous testing to which it had subjected its April 2006 reforms. In fact, the available evidence - most notably BC's own mill studies discussed above - shows that BC's changes and practices, already known to divert more timber into Grade 4, are inconsistent with the grandfathered 50/50 rule, and the Standard that timber be graded according to its suitability for lumber. None of the changes could be defended as a move toward market pricing or an effort to reflect market conditions.

BC's actions do not fall within any Article XVII exception to the Anti-circumvention rule because they do not, in fact, maintain or increase the extent to which the stumpage price reflects market conditions, and they undermine or counteract movement toward the market pricing of timber. Canada has therefore breached the SLA as a result of these actions.

230. Respondent characterized Claimant's claim as brought in the SoC as being divided into (1) an "inferential" case based on the mere increase of Grade 4 in the B.C. timber

harvest between 2007 and 2009 which allegedly can only be explained by deliberate misgrading of timber and (2) an “actions” case based on four actions by the B.C. government that allegedly changed the grandfathered timber grading and scaling system in ways that made logs more likely to be misgraded as Grade 4.¹⁹⁵

231. According to Respondent, the “inferential” case must already fail as it identifies neither an action by B.C. nor any benefit flowing from the rising percentage of Grade 4 timber in the harvest.¹⁹⁶ The “actions” case must also fail because Claimant did not establish the requirements of Article XVII of the SLA for any of the alleged actions.¹⁹⁷

232. Subsequently, in the Reply, Claimant clarified its claim as follows (Reply ¶¶ 128-131):

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.' 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 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).

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.

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

¹⁹⁵ SoD ¶ 1.

¹⁹⁶ SoD ¶ 8.

¹⁹⁷ SoD ¶¶ 199 *et seq.*

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.

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' by the SLA. 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.

233. Accordingly, Claimant claims that Respondent, through B.C., circumvented the SLA by selling lumber-quality timber to its producers at stumpage fees below those required by the grandfathered system. Claimant submits that the misgrading was accomplished, *inter alia*, in a variety of ways which are all attributable to Respondent, and which serve as examples for how B.C. facilitated the misgrading and selling of underpriced timber.
234. In the Rejoinder, Respondent maintains that Claimant makes (1) an “inferential” and (2) an “actions” claim, both of which must fail.¹⁹⁸
235. Finally, in its PHB, Claimant confirmed its position and further clarified its claim as follows:

The United States alleges that Canada, specifically BC, underpriced timber that had passed the 50/50 test and should have received a sawlog grade and sold it as Grade 4 timber. By selling underpriced timber to its industry, BC conferred a benefit under Article XVII of the SLA. The evidence further demonstrates that BC took incremental and continual steps after the SLA entered into force to ensure that its industry would pay as much flat, low stumpage as possible. The increase in Grade 4, combined with

¹⁹⁸ Rejoinder ¶¶ 4-6.

the evidence and BC's own admissions of how valuable and lumber-suitable MPB timber remained well past five years, all confirm that the Grade 4 increase did not occur because of any change in the harvest but occurred because of changes in grading.

But the 'action' in this arbitration is not limited to BC's incremental steps. The steps are merely a means by which BC effected its goal of increasing the amount of Grade 4 in response to the crash of the U.S. housing market. Indeed, Deputy Minister Hayden confirmed that the Crown is responsible for charging the appropriate stumpage that reflects the value of timber. In other words, BC is responsible for the consequences of selling underpriced timber, regardless of whether it was the entity to have misgraded the timber in the first instance.¹⁹⁹

236. As summarized above (*see also* Section D. III), Claimant submits that Respondent took actions with the aim of increasing the amount of Grade 4 timber in response to the collapse of the U.S. housing market. Claimant, *inter alia*, argues that Respondent, upon pressure from the industry, deliberately chose to make “clarifications” to its grading system in the hope that this non-formal, non-transparent measure would provide immediate relief to the B.C. industry. According to Claimant, Respondent took such steps to provide a benefit for the industry, and that it accomplished the goal of selling the majority of MPB timber at the low, flat stumpage fee which is reflected in the dramatic increase of Grade 4 after May 2007.

237. In its Post-Hearing Brief, Claimant repeated its assertion that, in 2007, facing a collapsing U.S. housing market, [] and B.C. made changes to the grading system, calling them mere “clarifications”, and took all of these steps – allowing unregulated use of local knowledge, drastically changing scaling requirements, allowing widespread use of kiln warming, and the increased use of bucking – [] According to Claimant, B.C.’s reaction to the industry’s concerns was a “concerted effort” to bring the industry economic relief by increasing the amount of Grade 4.²⁰⁰

238. Respondent, in its Post-Hearing Brief, emphasized that Claimant’s allegations imply a conspiracy, however, avoid naming it as such.²⁰¹

¹⁹⁹ C-PHB ¶¶ 13, 14.

²⁰⁰ C-PHB ¶¶ 7, 91, 92, 95, 133, 151.

²⁰¹ R-PHB ¶ 168.

239. However, at the Hearing, Claimant made it clear that it does not accuse Respondent of a vast conspiracy to act in bad faith to breach the SLA. In its Opening Statement, Claimant stated:

*[...] the United States also does not accuse Canada of a vast conspiracy to act in bad faith to breach the SLA. To be clear, the United States in no way accuses Canada of bad faith or ill intent, and Canada's mischaracterization of our claim in that regard is unfortunate and greatly mistaken.*²⁰²

240. In direct examination, Deputy Minister Dana Hayden stated:

*[...] the United States would like the Panel to believe that there has been nefarious collusion between Government and industry to somehow purposefully circumvent the Softwood Lumber Agreement to provide a benefit to industry in some way. And that is, frankly, patently untrue; Government has not done that, and Government would not do that.*²⁰³

241. When the Tribunal questioned Deputy Minister Hayden regarding Claimant's statement in its Opening Statement as quoted above, she responded that "*when I read the statements that the United States has submitted in its documentation and petitions, it doesn't feel that way or look that way to me. [...] that's not how I have interpreted the documentation in that the United States had filed in this case.*"²⁰⁴

242. Subsequently, the Tribunal asked Claimant's Counsel Patricia McCarthy whether it was right in assuming that the "*Government of British Columbia*" was included in her reference to "*Canada*" in the statement she made in her Opening Statement. Ms McCarthy responded: "*Yes, absolutely, of course.*"²⁰⁵

243. When asked by the Tribunal whether the scalers and the check scalers had collectively carried out misgrading, Claimant's expert witness Dr. Jonathan Neuberger stated:

Well, I'm certainly not suggesting that there is some kind of nefarious conspiracy going on here among scalers. I think the history of the scaling regulations confirms that under the prior system, a dead sawlog was – or that one of the criteria for scaling prior to the change in standards was that a tree

²⁰² Transcript, page 26, line 23 *et seq.*; page 27, lines 1-3.

²⁰³ Transcript, page 815, lines 1-7.

²⁰⁴ Transcript, page 887, lines 7-13.

²⁰⁵ Transcript, page 887, lines 14-18.

or a log that was dead at the time it was harvested automatically got the 25 cents minimum stumpage rate. It is entirely possible, and I'm not suggesting again any kind of conspiracy here, but it is possible, that those standards never really went away. [...]

So, again, I'm not trying to suggest that these 300 people get together and collude, but anticompetitive conduct, for example, doesn't require explicit collusion. There could be tacit collusion, in which a particular result is expected, and everyone just goes along with that expectation. I don't know exactly what happened.

ARBITRATOR van den BERG: Do you have any factual basis for this – what you just presented to us?

*THE WITNESS: I do not. I'm speculating.*²⁰⁶

244. Finally, in its Closing Statement, Claimant reaffirmed:

*As clarified during Deputy Minister Hayden's testimony, the United States does not allege a vast conspiracy on the part of the Ministry and the industry. Nor does it allege that hundreds of graders were conspiring to uniformly thwart the grading rules.*²⁰⁷

245. The Tribunal further notes that during the Hearing, Claimant did not cross-examine any of Respondent's witnesses on the issue of conspiracy or bad faith.

246. Considering the foregoing, the Tribunal concludes that conspiracy or bad faith on the part of the Government of British Columbia was never part of Claimant's case. Such a serious accusation would require not only an explicit allegation to be clearly pleaded and proved with cogent evidence, but also, as a matter of procedural fairness, that the allegation be put by the alleging party to relevant witnesses, particularly in cross-examination of the individual person or persons said to be guilty of such grave misconduct attributable to the other party. It plainly cannot be assumed or inferred by an international tribunal. In this case, notwithstanding certain linguistic ambiguities in its written case, both before and after the Hearing, no such explicit allegation was ever pleaded by Claimant. Given the careful explanation of its case at the Hearing by Claimant itself, it is impossible for the Tribunal to treat these ambiguities as indirectly alleging what Claimant directly confirmed otherwise. Moreover, no such allegation was ever put to any witness by Claimant at the Hearing: to the contrary, Claimant courteously took pains to assure Deputy Minister Hayden that no such allegation was

²⁰⁶ Transcript, page 1320, lines 8 *et seq.*; page 1321, lines 1-9.

²⁰⁷ Transcript, page 1609, lines 12 *et seq.*

made against her or her Government; and Claimant's own expert witness, Dr Neuberger, also took similar pains to explain that he was not advancing any such allegation. Accordingly, the Tribunal necessarily treats Claimant's case as excluding any allegation of bad faith, conspiracy or other moral turpitude against Respondent (including the Government of British Columbia); and the Tribunal also concludes, on all the evidence adduced in these arbitration proceedings, that Claimant was correct in choosing not to advance such a serious allegation against Respondent in the present case.

247. Accordingly, the Tribunal will focus on the four specific government actions relied upon by Claimant, i.e., (1) encouraging the use of local knowledge; (2) allowing the practice of kiln-warming; (3) urging the use of bucking and introducing a new sweep formula; and (4) making changes to the Scaling Manual, to determine whether Claimant has established that any of them circumvented Article XVII of the SLA, as it alleges.

2. The Requirements for Claimant's Claim under Article XVII of the SLA

248. Claimant's claim is brought under Article XVII (1) and (2) of the SLA. Article XVII (1) and (2) read, in relevant part, as follows:

1. Neither Party, including any public 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 de facto basis to producers or exporters of Canadian Softwood Lumber Products. Notwithstanding the foregoing, measures that shall not be considered to reduce or offset the Export Measures in the SLA 2006 include, without limitation:

(a) provincial timber pricing or forest management systems as they existed on July 1, 2006, including any modifications or updates that maintain or improve the extent to which stumpage charges reflect market conditions, including prices and costs,

[...]

(c) actions or programs undertaken by a Party, including any public authority of a Party, for the purpose of forest or environmental management, protection, or conservation [...], provided that such actions or programs do not involve grants or other benefits that have

the effect of undermining or counteracting movement toward the market pricing of timber.

249. It is disputed between the Parties what Claimant needs to establish to prove its case under the above provisions.
250. Claimant argues that in order to establish circumvention under Article XVII of the SLA, it bears the burden to demonstrate that Respondent provided a benefit to softwood lumber producers by selling timber at prices lower than dictated by the timber pricing system grandfathered by the SLA.²⁰⁸ According to Claimant, to meet this burden, it must demonstrate that (1) the rise in Grade 4 timber starting in 2007 has been due to misgrading; and (2) that B.C. has been selling underpriced timber to lumber producers due to misgrading.²⁰⁹
251. As regards the standard of proof, Claimant argues that it is well-established under international law that circumstantial evidence is sufficient to prove a claim particularly where other evidence is unavailable.²¹⁰ It claims that it met the required standard of proof. According to Claimant, the evidence demonstrates that the amount of Grade 4 should have remained below 20 % between 2006 and the present,²¹¹ which it did not. Publicly-available data, data which Respondent released in disclosure, Respondent's data regarding the timing of the MPB outbreak, data regarding the shelf-life of MPB timber, the results of B.C.'s own Mill Studies as well as Respondent's own salvage theory all confirm this and establish that the rise in Grade 4 was necessarily due to misgrading.²¹²
252. Respondent rejects these considerations altogether. Respondent argues that, in order to prevail in its circumvention claim under Article XVII in this case, Claimant must establish that: (1) a government action has been taken; (2) the action has provided a "benefit"; and (3) the benefit was provided to Canadian softwood lumber producers or exporters.²¹³ If Claimant fails to establish these elements, no circumvention can be

²⁰⁸ C-PHB ¶ 11.

²⁰⁹ Reply ¶ 24.

²¹⁰ Reply ¶ 9.

²¹¹ C-PHB ¶ 11.

²¹² Reply ¶ 9.

²¹³ R-PHB ¶ 23.

found.²¹⁴ Even if it did, Respondent may then establish that the action was grandfathered or safe harboured under Article XVII(2)(a) or (4) of the SLA.²¹⁵

253. The Tribunal will revert to the issue of burden of proof in its considerations below (paragraphs 263 *et seq.*).

3. The Relevant Circumventing Action in Terms of Article XVII SLA

254. The Parties are in dispute as to whether Claimant has identified and established a circumventing action at all, and if yes, what this action is and whether it meets the requirements of Article XVII SLA.

a) The Parties' Positions on the Relevant Action

(i) Claimant's Position

255. It is Claimant's case that "[t]he selling of timber at less than its value is the breaching action."²¹⁶ According to Claimant, the breach is B.C.'s underpricing of timber due to misgrading, and that various specific government actions facilitated misgrading and underpricing of timber.²¹⁷

256. Claimant argues that it has demonstrated its claim by showing that most of the timber sold at the Grade 4 stumpage rate should have been sold at the higher, sawlog rate. Claimant clarified at the Hearing that it claims that "[t]he manner in which B.C. accomplished the selling or underselling was multi-faceted and included a course of dealing with scalers that allowed them to replace the grading system with what the scalers thought to be the correct application of the grading rules."²¹⁸

257. Claimant submits that the evidence demonstrates that B.C. took incremental steps after the SLA came into force to ensure the underpricing of timber. The action within the meaning of Article XVII SLA, Claimant submits, is not limited to these steps, though. They are merely means by which B.C. effected its goal of increasing the amount of

²¹⁴ SoD ¶ 112.

²¹⁵ R-PHB ¶ 23.

²¹⁶ Transcript, page 1678, lines 14, 15; C-PHB ¶¶ 9, 13; Reply ¶ 21, 128.

²¹⁷ C-PHB ¶¶ 13, 14; Reply ¶132.

²¹⁸ Transcript, p. 1616, lines 20 *et seq.*

Grade 4 in the harvest.²¹⁹ According to Claimant, these steps are: (1) encouraging use of local knowledge; (2) allowing the practice of kiln warming; (3) urging the use of bucking and introducing a new sweep formula; and (4) making changes to the Scaling Manual.

258. In addition, as a further example of how B.C. allegedly facilitated the selling of underpriced timber, Claimant submits that B.C. acquiesced in misgrading by the industry. Claimant contends that B.C. knowingly failed to apply and enforce its grading system, thereby allowing increasing amounts of timber to be misgraded.²²⁰ In fact, according to Claimant, the Ministry knew that the industry had, in practice, changed the scaling rules, but took no action to correct the industry's misgrading.²²¹

(ii) Respondent's Position

259. It is Respondent's position that Claimant has changed its claim by now describing the alleged government actions complained about in its SoC as mere "*examples*" or "*steps*" that B.C. took to "*facilitate its sales of timber to B.C. producers and exporters at stumpage fees lower than those required by the SLA,*"²²² and that the breaching action is now supposed to be the selling of underpriced timber as such. However, since the "*selling*" of Grade 4 timber for C\$ 0.25 is clearly part of the grandfathered system and as such cannot be circumvention, Claimant's case is no longer based on any government action that could trigger Article XVII.²²³

260. Respondent argues that if a Grade 2 log was sold for the price that should attach to a Grade 4 log in some systematic way resulting from government action, this action might be circumvention. However, this would mean that the log is misgraded. Since the government does not grade logs, any breaching government action must be something that caused scalers to misgrade logs.²²⁴

261. According to Respondent, the only government actions that could be considered as such are the encouragement of local knowledge, bucking, kiln warming and the Scaling

²¹⁹ C-PHB ¶¶ 13, 14.

²²⁰ Reply ¶ 243.

²²¹ Reply ¶ 252.

²²² Rejoinder ¶ 88.

²²³ Rejoinder ¶ 28, 88; Transcript, page 1678, lines 17 *et seq.*; R-PHB ¶ 25.

²²⁴ Transcript, page 1678, line 25 and page 1679, lines 1 *et seq.*; R-PHB ¶¶ 25, 26.

Requirements.²²⁵ Out of these, only two government actions have been shown to have any effect on the behavior of scalers, i.e., kiln warming and the Scaling Requirements.²²⁶

262. Claimant has failed to identify any further government action that could have caused misgrading. In particular, the alleged “*no action*” by the Ministry to enforce its Scaling Regime cannot qualify as an action in terms of paragraphs 1 and 2 of Article XVII. No claim for circumvention can be brought under the SLA based on an alleged “*acquiescence*” where, according to Claimant, no government action has been taken. Such cases must be settled under paragraph 3 of Article XVII which deals with alleged failures to act and provides for consultation, not arbitration.²²⁷

b) The Tribunal’s Considerations

(i) Burden of Proof

263. As a preliminary matter, the Tribunal must decide on the elements and allocation of the burden of proof since the Parties disagree, as stated above.

264. Article XVII(1) of the SLA prohibits a Party, including any public authority of a Party, from taking any “*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.*” 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 *de facto* basis to softwood lumber producers or exporters, unless they fall within one of the exceptions provided by Article XVII(2) of the SLA.

265. In interpreting these provisions, the Tribunal has to ascertain “*the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose,*” pursuant to Article 31(1) of the VCLT. As stated above, such interpretation must be based, above all, on the text of the treaty (*see* paragraph 225).

²²⁵ Reply ¶ 26.

²²⁶ Transcript, page 1679, lines 5 *et seq.*; R-PHB ¶¶ 17, 27.

²²⁷ Rejoinder ¶ 145 *et seq.*

266. The Tribunal concurs with the tribunal in LCIA Arbitration No. 81010 that the ordinary meaning of the first sentence of Article XVII(2) of the SLA contains a presumption pursuant to which grants or other benefits reduce or offset the commitments under the SLA, and therefore constitute a breach of Article XVII(1), and that the second sentence introduces exceptions to this presumption.²²⁸ The Tribunal further concurs with the tribunal in LCIA Arbitration No. 81010 that in order to avail itself of the presumption of circumvention, Claimant has the burden of proving that Respondent took action to circumvent the SLA. To establish circumvention under Article XVII(1) of the SLA, Claimant has to identify a specific government action that provided a “*grant or other benefit*” to Canadian producers or exporters of Canadian Softwood Lumber Products.
267. If Claimant satisfies such burden of proof, Respondent may then rebut the presumption of circumvention if it establishes that one of the exceptions to the presumption is available, specifically, that the action in question was grandfathered or safe harboured under Article XVII(2)(a) or (b) of the SLA.

(ii) Circumstantial Evidence

268. The Tribunal agrees with Claimant that, pursuant to customary international law, it is entitled to present circumstantial evidence to support its case. Respondent has not challenged the proper use of circumstantial evidence before international tribunals.²²⁹ However, Respondent submits that a tribunal should approach such circumstantial evidence with caution, as stated by the tribunal in *Methanex v. United States*:²³⁰

The perils of such a course, and the caution with which a tribunal should approach an invitation to undertake it, were stated by the tribunal in Methanex v. United States of America in words that apply equally here: Connecting the dots is hardly a unique methodology; but when it is applied, it is critical, first, that all the relevant dots be assembled; and, second, that each be examined, in its own context, for its own significance, before a possible pattern is essayed. Plainly, a self-serving selection of events and a self-serving interpretation of each of those selected, may produce an account approximating verisimilitude, but it will not reflect what actually happened. Accordingly, the Tribunal will

²²⁸ CA-6 ¶ 119.

²²⁹ Rejoinder ¶¶ 31 *et seq.*; R-PHB ¶ 28.

²³⁰ *Methanex v. United States*, Final Award pt. IIIB, ¶ 1 (NAFTA Ch. 11 Arb. Trib. Aug. 3, 2005).

consider the various ‘dots’ which Methanex has adduced – one-by-one and then together with certain key events (essentially additional, noteworthy dots) which Methanex does not adduce – in order to reach a conclusion about the factual assertions which Methanex has made. Some of Methanex’s proposed dots emerge as significant; others, as will be seen, do not qualify as such. In the end, the Tribunal finds it impossible plausibly to connect these dots in such a way as to support the claims set forth by Methanex.

269. The Tribunal therefore notes that there is common ground that Claimant may rely on circumstantial evidence to support its case. However, the Tribunal will weigh the circumstantial evidence in line with the approach taken by the tribunal in the *Methanex* case. (The Tribunal notes that the claimant’s case in *Methanex* included allegations of moral turpitude against California attributable to the USA. Although such allegations are absent from this case (*see* paragraphs 239 *et seq.* above), the Tribunal nonetheless considers that its approach to circumstantial evidence remains appropriate here.)

(iii) Claimant Is Advancing One Case, Not Two Distinct Cases

270. According to Respondent, Claimant is advancing two distinct arguments, a case Respondent calls “*inferential*” and a case it calls “*actions*.”

271. Indeed, if one were to look at what Respondent calls Claimant’s “*inferential*” case as a distinct case – that is, based on the significant increase of Grade 4 in the B.C. timber harvest as from May 2007 which allegedly can only be explained by misgrading of timber – one would have to conclude that it would have to fail because Claimant asks the Tribunal to draw an inference that such rise must have occurred as the result of misgrading. That argument alone would not discharge Claimant’s burden to prove that a specific government action caused the increase.

272. However, Claimant has made it clear that it is not advancing two distinct cases, an “*inferential*” case and an “*actions*” case, but only one case, “*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.*”²³¹ Claimant is of the view that it has demonstrated its claim by showing that most of the timber sold at the Grade 4 rate should have been sold at the higher, sawlog rate.

²³¹ Reply ¶ 128.

273. The Tribunal will therefore look at Claimant's case as a single one, based on the alleged government actions, and in that context will consider the direct evidence and weigh the circumstantial evidence on which Claimant relies.

(iv) Selling of Grade 4 Timber As Such Is No Circumvention of the SLA

274. It seems common ground that the "*selling*" of Grade 4 timber for C\$ 0.25 per cubic meter as such was part of B.C.'s grandfathered timber management and pricing system. Neither the definition nor the price of Grade 4 was changed after 1 July 2006. Accordingly, the selling of Grade 4 timber at C\$ 0.25 per cubic meter by the B.C. government as such cannot be a government action in circumvention of the SLA.

(v) Misgrading Could Constitute a Circumvention of the SLA

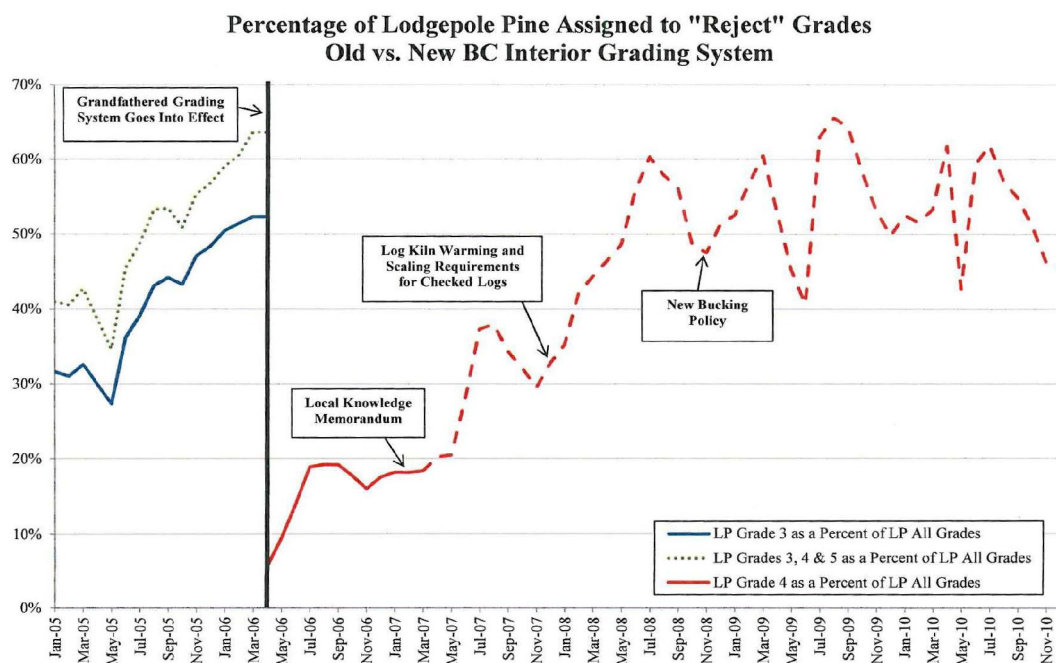
275. However, Claimant has also made it clear that its case is not based on the selling of underpriced timber as such. Rather, it is based on the underpricing of timber due to misgrading, and that various specific government actions facilitated such misgrading.

276. It is undisputed that grading is not performed by the government itself but by industry-employed scalers and that this conduct cannot be attributed to B.C. It is further undisputed that the government itself does not determine the price at which it sells timber. The price at which timber is sold by the B.C. government is set through timber auctions of short-term harvesting rights and correlates to the log grade. In the Tribunal's view, it follows that Claimant must establish a specific government action that caused scalers to misgrade, and that this resulted in the selling of timber for less than the proper amount.

III. Analysis of the Four Actions Relied upon by Claimant

1. Introduction

277. In analysing whether the four measures relied upon by Claimant were government actions and caused misgrading, the Tribunal will take into account the following chart submitted by Claimant as Demonstrative 5 to its Opening Statement:



Notes:
 1) Chart depicts "reject" grades for lodgepole pine ("LP"), by scale date, for BC Interior.
 2) The solid portion of the red line represents the first year under the new grading system.
 Source: Ministry of Forests Harvest Billing System, Mark Monthly Scaling History Reports from 2005 - 2010. Accessed June 13, 2011.

DEMONSTRATIVE 5

278. The chart is identical to the one referred to at paragraph 171 above, the only difference being the boxes that Claimant added in order to indicate the date of implementation of the four government actions on which it relies and the point of time at which they coincide with periods of increase in Grade 4.²³² Box 1 refers to Local Knowledge, box 2

²³² Transcript, page 71, line 5 to page 72, line 1.

refers to both Kiln Warming and the Scaling Requirements and box 3 (reading from left to right from May 2006) refers to the New Bucking Policy.

279. According to Respondent, the only actions that could be considered government actions are the authorization of kiln warming and the 2007 Scaling Requirements (i.e., Actions 2 and 4 considered below).²³³ However, Respondent denies that the alleged coincidence of the dates of either of these actions relied upon by Claimant with the periods of increase in the percentage of Grade 4 timber in the B.C. Interior pine harvest establishes causation.²³⁴

2. Action 1: B.C. Encouraged Development of "Local Knowledge" as a Means to Facilitate Misgrading and Underpricing of MPB Timber

280. In 2007, in reaction to industry concerns at the January 2007 ISAC grading subcommittee meeting,²³⁵ a Ministry official sent a memorandum dated 2 February 2007 to lumber officials, including the scalers,²³⁶ *"to encourage the development of local scaling knowledge with regard to checks."*²³⁷ It 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."*²³⁸

a) Claimant's Position

281. Claimant claims that, as evidenced in the 2 February 2007 memorandum, the Ministry asked mills' log graders and scalers to develop and use untested grading practices based on their *"local knowledge"* with regard to checks.²³⁹ This 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.²⁴⁰ By sending out the local knowledge memorandum,

²³³ R-PHB ¶ 27; Transcript, page 175, lines 23-25.

²³⁴ R-PHB ¶ 34.

²³⁵ SoC ¶ 100; C-79 at CAN-007178-80.

²³⁶ SoC ¶ 100.

²³⁷ The term *"checks"* means separations or splits in wood fiber that are often found in trees affected by the MPB and are hard to detect in the winter. *See* C-45 at CAN-010975.

²³⁸ *Id.*

²³⁹ SoC ¶¶ 99, 100.

²⁴⁰ Reply ¶ 132.

Claimant submits, B.C. allowed the industry to make the first attempt to remedy the industry's frustration without making formal changes.²⁴¹

(i) Encouragement of Local Knowledge Changed Scaling Practice

282. According to Claimant, the memorandum was a "*directive*" that consumed months of consideration by ISAC.²⁴² Claimant relies on the following evidence: the 5 December 2006 ISAC meeting at which Steve Laberge, the technical scaling coordinator, was directed to send a memorandum to the district staff to encourage the development of local knowledge;²⁴³ further, the January 2007 Grade Sub-Committee meeting at which ISAC decided to send a final version of the memorandum to the Ministry Scaling Staff and ISAC;²⁴⁴ and finally, distribution of the memorandum to lumber producers and scalers by Mr. Laberge on 2 February 2007.²⁴⁵ Also, the February 2007 "*directive*" was [

] ²⁴⁶

283. The memorandum recognized that it was announcing a "*new' local knowledge*" policy as distinguished from the local knowledge grandfathered by the SLA.²⁴⁷ In the Scaling Manual, "*local knowledge*" is defined as "*various accepted indicators at the local forest service level.*"²⁴⁸ By contrast, the February 2007 memorandum 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

²⁴¹ C-PHB ¶ 92.

²⁴² Reply ¶ 134.

²⁴³ Reply ¶ 135; C-138 at CAN-007176.

²⁴⁴ Reply ¶ 136; C-139 at CAN-011001.

²⁴⁵ Reply ¶ 137; C-45 at CAN-010975.

²⁴⁶ Reply ¶ 140; C-73 at CAN-010541.

²⁴⁷ Reply ¶ 142; C-45 at CAN-010975.

²⁴⁸ Reply ¶ 143; C-50 at CAN-008460 (2007 Scaling Manual, § 8.4.2.1).

*development of that local knowledge is important for scalers in understanding the behavior of checks under different types of weather conditions.*²⁴⁹

284. According to Claimant, the modified local knowledge policy did not take into account whether the 50/50 rule was being properly applied to logs with checks. Claimant alleges that the presence of checks was elevated over the 50/50 rule itself,²⁵⁰ and that the Ministry did not rely on empirical data on the correlation of grading and log quality.²⁵¹ Since the type of practice encouraged was unrelated to timber's suitability for lumber under the 50/50 rule, the directive resulted in the misgrading of sawlogs as Grade 4 lumber reject.

285. Claimant submits that scaling decisions were in fact altered as a result of the February 2007 local knowledge “directive,”²⁵² and that [

Ministry was aware that [

] ²⁵³ In addition, the

] ²⁵⁴

286. As a result, Claimant alleges that just three months after the dissemination of the 2007 memorandum, the first dramatic rise in Grade 4 occurred,²⁵⁵ and that the share of Grade 4 nearly doubled in the year after its release, rising from 17.1 % to 33 % of the total timber harvest.²⁵⁶

(ii) Local Knowledge Is Not Grandfathered

287. Claimant submits that use of “local knowledge” cannot be “grandfathered” because B.C. enacted a new policy.²⁵⁷ Specifically, “local knowledge” does not serve to achieve a “more accurate scale.”²⁵⁸ Respondent's new policy encouraged scalers to focus on checks, with a view to achieving consistency throughout the B.C. Interior at different

²⁴⁹ Reply ¶ 143; C-45 at CAN-010975.

²⁵⁰ Reply ¶144.

²⁵¹ C-PHB ¶ 93.

²⁵² Reply ¶153.

²⁵³ Reply ¶155; C-141 at CAN-018873.

²⁵⁴ Reply ¶157; C-141 at CAN-018874.

²⁵⁵ C-PHB ¶ 94.

²⁵⁶ SoC ¶103; C-2 at Ex. 3.

²⁵⁷ Reply ¶151.

²⁵⁸ *Id.*; SoD ¶ 202.

times of year.²⁵⁹ Thus, the focus was not accuracy, but consistency. At no time did B.C. 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.²⁶⁰

288. Claimant emphasizes that exception 2(a) of Article XVII of the SLA does not apply unless Respondent establishes that B.C.'s modification of the local knowledge policy "*maintained or improved the extent to which stumpage charges reflect market conditions including prices and costs.*" According to Claimant, Respondent cannot meet this standard because B.C.'s modification of the local knowledge policy facilitated B.C.'s selling of underpriced timber.²⁶¹

b) Respondent's Position

(i) The February 2007 Memorandum Was No "Directive"

289. Respondent submits that Mr. Laberge's e-mail of February 2007 did not introduce a new policy.²⁶² It was simply a suggestion by Mr. Laberge that scalers gather information on checks so that "*[they could understand] the behavior of checks under different types of weather conditions.*"²⁶³

290. According to Respondent, the text of the e-mail has nothing in it that amounts to a directive.

291. Respondent argues that the e-mail may have contemplated that some policy directive might follow in the future, but there is no evidence that it led to any change in policy or practice. Respondent submits a statement from its witness James Crover, Mr. Laberge's supervisor at that time, explaining that the suggestion had no effect as it was not acted on by industry.²⁶⁴

²⁵⁹ Reply ¶152; C-80 at CAN-051103.

²⁶⁰ Reply ¶152.

²⁶¹ Reply ¶161.

²⁶² Rejoinder ¶ 90; SoD ¶ 204.

²⁶³ SoD ¶ 203, C-45 at CAN-010975.

²⁶⁴ R-PHB ¶ 122; Rejoinder ¶ 92; Crover Statement ¶ 83 (R-3); Reply ¶¶ 155-158 and C-141 at CAN-018873-74.

292. Rather, as Claimant's citation of []²⁶⁵ the Ministry simply sought to encourage scalers to develop local knowledge about defects and test and confirm what they had learned, all under Ministry supervision.²⁶⁶ The reason was that local knowledge was seen as a possible solution to the difficulties scalers were experiencing when measuring and identifying checks following implementation of the April 2006 log grades.²⁶⁷

293. In fact, Respondent submits, the documents relied upon by Claimant show that the "*high priority*" for the Ministry was not the development of local knowledge, but rather the accurate measurement of checks.²⁶⁸ After the February 2007 e-mail was sent, both the Ministry and industry recognized that difficulties measuring and assessing checks needed "*regional involvement*" and that local knowledge was not enough.²⁶⁹

(ii) Encouragement of Use of Local Knowledge Did Not Lead to Misgrading

294. Respondent argues that Claimant has provided no evidence that the encouragement of the use of "*local knowledge*" resulted in any change, much less an increase of Grade 4 logs caused by misgrading. The inability of Claimant to prove its case is illustrated by its mere reliance on the fact that the percentage of logs scaled as Grade 4 increased around the time the memorandum was issued to establish that a circumvention of the SLA has occurred.²⁷⁰ Actions can be found to circumvent the SLA only if they constitute "[g]rants or other benefits." Claimant is unable to put forward any evidence that the encouragement of local knowledge caused misgrading or provided any "*benefit*" to softwood lumber producers.²⁷¹

²⁶⁵ Rejoinder ¶ 93.

²⁶⁶ Rejoinder ¶ 93.

²⁶⁷ R-PHB ¶ 122; Rejoinder ¶ 94; Crover Statement ¶ 82 (R-3).

²⁶⁸ Rejoinder ¶ 94; CAN-49 at CAN-011328.

²⁶⁹ R-PHB ¶ 122; Rejoinder ¶ 94; C-49 at CAN-011309.

²⁷⁰ SoD ¶ 205; R-PHB ¶ 124; *see* SoC ¶ 103.

²⁷¹ SoD ¶ 205.

(iii) Encouragement to Use Local Knowledge Is In Any Event
Grandfathered

295. Respondent submits that the encouragement of the use of local knowledge is in any event grandfathered under Article XVII(2)(a).²⁷² The practice was incorporated and approved in the Scaling Manual which was part of B.C.'s timber pricing and forest management systems that existed in B.C. on and long before 1 July 2006.²⁷³
296. According to Respondent, Claimant acknowledges not only that the use of local knowledge is grandfathered, but also that B.C.'s promotion of the use of "*local knowledge*" is not itself a breach of the SLA.²⁷⁴ Respondent refers to Claimant's argument that "*because the resultant grading practices increased the share of Grade 4 timber, BC is in breach unless Canada can show that the grading practices derived from 'local knowledge' resulted in stumpage fees that maintain or improve the extent to which stumpage prices reflect market conditions.*"²⁷⁵
297. Respondent claims that this argument confuses the criteria for an action to be grandfathered because it existed on 1 July 2006 and the criteria for a new action that is safe harboured under Article XVII(2)(a) of the SLA. Article XVII(2)(a) provides protection for: (1) provincial timber pricing or forest management systems as they existed on 1 July 2006 and (2) modifications or updates that maintain or improve the extent to which stumpage charges reflect market conditions including prices and costs.
298. The requirement that the actions maintain or improve the extent to which stumpage charges reflect market conditions applies only to the safe harbour for modifications or updates. It does not apply to the grandfathering prong of Article XVII(2). Therefore, it is not necessary to show that local knowledge, which is conceded to be grandfathered, satisfied the safe harbour criteria in order for it to be protected under Article XVII(2)(a).²⁷⁶

²⁷² R-PHB ¶ 119.

²⁷³ SoD ¶ 207; R-PHB ¶ 119.

²⁷⁴ SoD ¶ 208; SoC ¶¶ 99, 100, 103.

²⁷⁵ SoD ¶ 208; SoC ¶ 103 (emphasis added).

²⁷⁶ SoD ¶ 209.

c) The Tribunal's Considerations

299. In the Tribunal's view, the use of local knowledge is a practice incorporated in the Scaling Manual (see *R-19, Chapter 5.1.4, page 5-3*) and existed before the SLA was entered into. As such, it was grandfathered under Article XVII(2)(a) of the SLA.

300. Claimant does not dispute this.²⁷⁷ However, Claimant contends that the February 2007 memorandum (C-45) announced a policy change in the use of local knowledge.²⁷⁸ Under this changed policy, according to Claimant, B.C. encouraged the development and use of untested practices based on scalers' local knowledge, not taking into account whether the 50/50 rule was being properly applied to logs with checks.²⁷⁹ Claimant refers to the wording of C-45 which speaks of a "new" local knowledge policy which has to be distinguished from the grandfathered practice.

301. The Tribunal disagrees with this analysis. The February 2007 memorandum clearly states that it is intended "to encourage" the development of local scaling knowledge with regard to checks. It further states that:

*Employers/managers should support industry and ministry scalers in developing this knowledge. We encourage this sharing on a regional and provincial basis across the Mountain Pine Beetle affected areas. The ministry scaler has the responsibility to be satisfied that this 'new' local knowledge is accurate and should be reviewed on an ongoing basis. We must all be receptive to ideas that may make the scale more accurate.*²⁸⁰

302. The double quotation marks around the term "new" suggest to the reader of the memorandum that B.C. did not consider the encouragement to use local knowledge as a change to the existing practice.

303. Further, the wording of the memorandum makes it clear that its objective was to improve the accuracy of scaling by enhancing the use of an existing practice, rather than introducing a new one. This is in line with Article 5.1.4 of the 2003 Scaling Manual (R-19) which provides that "an accurate scale will best be achieved when scalers temper the use of conventions with local knowledge and sound judgement." The fact that the

²⁷⁷ SoC ¶¶ 99, 100.

²⁷⁸ Reply ¶ 142.

²⁷⁹ Reply ¶ 144.

²⁸⁰ C-45 at CAN-010975.

memorandum specifically speaks about the need to develop local knowledge “*regarding checked logs*” does not change this analysis. The evidence has shown that checks are the most common defect in MPB-affected timber and posed difficulties to scalers when grading the logs under the April 2006 reforms. Under these circumstances, B.C.’s encouragement to the scalers to use and develop a grandfathered practice, i.e., local knowledge, in order to more accurately grade checked logs cannot be considered as a new measure outside of the grandfathered practice.

304. The Tribunal concludes that B.C.’s encouragement to scalers to develop local knowledge as expressed in the February 2007 memorandum is grandfathered under Article XVII(2)(a) of the SLA.
305. In any event, the Tribunal considers that B.C.’s encouragement in the February 2007 memorandum to use local knowledge with regard to checks does not amount to an action within the meaning of Article XVII of the SLA. In the Tribunal’s view, had B.C. intended to change its policy regarding local knowledge, it could be expected that it would have done so in a formal way such as a directive by a senior Ministry official or an amendment to the Scaling Manual. This was convincingly confirmed by Respondent’s witness James Crover.²⁸¹
306. Considering the format of the February 2007 memorandum – a simple e-mail sent by a staff member of the Ministry – and its soft wording – a simple encouragement to develop local knowledge with regard to checks – it can hardly be considered as a “*directive*,” as argued by Claimant, regardless whether the author had at all the authority to issue formal instructions.
307. Finally, Claimant has failed to establish that B.C.’s encouragement to the scalers was followed by the industry.
308. For these reasons, the Tribunal concludes that Claimant has not established that the encouragement to the scalers and industry to develop local knowledge with regard to checks was an action by B.C. in circumvention of Article XVII of the SLA, or that it was even implemented and followed by the industry.

²⁸¹ Crover Supplemental Statement ¶¶ 7-10 (R-148).

3. Action 2: B.C. Allowed Kiln Warming to Facilitate Downgrading

309. Kiln warming (or kiln re-drying) is the process of artificially heating logs in kilns before scaling. The heating dries the logs, causing checks in the logs to become easier to detect.
310. In November 2007, the Ministry approved kiln warming for Canfor and West Fraser, two large B.C. lumber producers, at five sites in the 100 Mile House and Quesnel districts. In January 2008, the pilot program was expanded to all authorized scale sites with available kilns, with the pilot program ending on 30 June 2008. Finally, in early 2008, the Ministry approved kiln warming for all sawmills in B.C. Interior.²⁸²
311. As part of the July 2010 policy changes in which the most heavily damaged pine stands in B.C. began to be sold on a "lump sum" basis, kiln re-drying was phased out and terminated altogether effective 1 July 2011.²⁸³

a) Claimant's Position

(i) Kiln Warming Diverts Timber to Grade 4

312. Claimant claims that B.C.'s decision to sanction, expand and standardize industry's practice of drying MPB logs in conventional lumber kilns before grading is another example of how B.C. modified the grading system to allow producers to derive a benefit on a *de jure* basis.²⁸⁴ According to Claimant, B.C. implemented the practice 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. It continued to allow the practice knowing that it resulted in an increase of the share of logs classified as Grade 4. By allowing this practice, Claimant submits, B.C. has facilitated the misgrading of sawlogs that otherwise pass the 50/50 rule.²⁸⁵
313. Claimant emphasizes that the purpose of kiln warming logs was in fact to create small checks that enabled scalers to downgrade the logs to Grade 4.²⁸⁶ According to Claimant,
[

²⁸² SoC ¶ 119; C-51 at CAN-028706.

²⁸³ Rejoinder ¶ 254.

²⁸⁴ SoC ¶ 118.

²⁸⁵ Reply ¶ 202.

²⁸⁶ Reply ¶ 165.

] ²⁸⁷ Respondent's contention that it introduced kiln warming to improve accuracy in the grading process is "untrue," ²⁸⁸ Claimant submits, and Respondent ignores the evidence demonstrating that this practice, in tandem with the Ministry's post-SLA focus on "checks," has led to increases in the number of sawlogs being graded as Grade 4 when they otherwise pass the 50/50 test. ²⁸⁹

314. Claimant argues that this is supported by the 2008-2009 annual report of FPInnovations which, according to Claimant, "admits" the real purpose of B.C.'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." ²⁹⁰

315. Claimant submits that Respondent does not provide any objective scientific evidence for its allegation that kiln warming improves the accuracy of log grades. ²⁹¹ In particular, there is no scientific, credible information as to whether this practice merely makes checks more visible, or creates or exacerbates checks. ²⁹² The expert report provided by Dr. Luiz Oliveira is, according to Claimant, not helpful to the Tribunal for the following reasons:

- As the author of the original kiln warming guidelines, his personal interest in the outcome of his experiments limits his objectivity.
- He performed his experiments under the supervision of counsel for B.C., not under the supervision of scientists.
- He selected logs and performed experiments in the warmer, drier summer months (July-September 2009), not during the cooler, wetter months for which kiln warming was intended.

²⁸⁷ SoC ¶ 129; C-58 at CAN-11853. Claimant also refers to [

] (C-29 at CAN-051733) [] (C-101 at CAN-052521). [

] (C-100 at CAN-052516; C-99 at CAN-

052391).

²⁸⁸ Reply ¶ 177.

²⁸⁹ Reply ¶¶ 195 *et seq.*

²⁹⁰ Reply ¶ 180; C-149 at 10-11.

²⁹¹ Reply ¶ 184.

²⁹² SoC ¶ 133.

- He used logs graded by others and assumed that the assigned log grades were accurate. He failed to independently and scientifically grade the logs before and after his experiments.
- 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.
- His work was never reviewed and verified by independent scientists.²⁹³

316. Instead of supporting Respondent's argument, Claimant emphasizes, Dr. Oliveira rather had to concede in his report that kiln warming in fact increased checking in MPB logs.²⁹⁴ In Dr. Oliveira's sample of 120 logs, he identified 69 instances of new checking.²⁹⁵ However, 94 % of the checks created by kiln drying were less than two centimeters in depth. Claimant stresses that *"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. But B.C. 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 lumber."*²⁹⁶

317. According to Claimant, Dr. Oliveira further corroborated the downgrading effect of kiln warming in his testimony at the Hearing, where he confirmed that kiln warming did not cause new checks to appear in logs, but that he understood minor end checks and surface checks not to be relevant for grading purposes. Against the background that kiln warming was introduced around the same time as the new Scaling Requirements, according to which all checks, including small surface checks, are relevant for grade reduction, nothing in his testimony establishes that kiln warming did not result in downgrading.²⁹⁷

(ii) Kiln Warming Is Not Grandfathered

318. According to Claimant, kiln warming is a new practice not grandfathered in the SLA.²⁹⁸ Under the April 2006 reforms, scalers were required to grade what they could see upon inspection, and to the extent that any likely defects went undetected, this would be

²⁹³ Reply ¶ 188.

²⁹⁴ Reply ¶ 191; R-11 at ¶¶ 72-73.

²⁹⁵ *Id.*

²⁹⁶ Reply ¶ 191; C-PHB ¶ 150; *see* C-84 at CAN-010282.

²⁹⁷ C-PHB ¶¶ 149, 150.

²⁹⁸ SoC ¶ 134.

accounted for in the variable price of sawlogs.²⁹⁹ Kiln warming logs prior to grading changed this system.³⁰⁰ Claimant argues that if kiln warming had been grandfathered, industry would not have had to request approval for the practice in the first place.³⁰¹

319. Further, even if it was grandfathered, Respondent would have to demonstrate that its practices actually implement the 50/50 rule and maintain or improve accuracy – which it has not done.³⁰² Rather, Claimant submits, the practice of kiln warming is inconsistent with the 50/50 rule. Claimant relies on the testimony of its expert witness Mr. Tom Beck who observes that small checks have little if any effect on the ability of a log to saw lumber, and thus on its passing the 50/50 test.³⁰³ Claimant concludes that even if Respondent was correct that kiln warming only exposes pre-existing checks, Respondent is wrong when it asserts that kiln warming increases grading accuracy by revealing small checks. The evidence in this case says otherwise.³⁰⁴
320. According to Claimant, there is no evidence for Respondent'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.*"³⁰⁵
321. Finally, Claimant submits that Respondent itself appears to concede that allowing kiln warming was a change which is compensable under the SLA.³⁰⁶

b) Respondent's Position

322. Respondent acknowledges that allowing kiln warming can fairly be characterized as a government action within the meaning of Article XVII SLA.³⁰⁷ However, Respondent submits, it did not constitute circumvention of Respondent's obligations under the SLA but reflected B.C.'s efforts that MPB-killed logs were accurately graded under the grandfathered rules.

²⁹⁹ Reply ¶ 178.

³⁰⁰ Reply ¶ 179.

³⁰¹ Reply ¶ 199; SoD ¶ 242 and C-145 at CAN-011549.

³⁰² Reply ¶ 200.

³⁰³ Reply ¶ 198; C-107 ¶ 50.

³⁰⁴ Reply ¶ 198.

³⁰⁵ Reply ¶ 201.

³⁰⁶ C-PHB ¶ 149.

³⁰⁷ R-PHB ¶¶ 114, 115.

(i) Kiln Warming Is Necessary for Grading Consistency

323. Respondent submits that kiln warming assisted the B.C. scalers in accurately grading MPB-affected timber considering the physical characteristics of such wood, particularly in the wet season, and ensured consistent scaling year round.³⁰⁸ Respondent refers to ISAC's concerns about scalers' ability to grade logs in cold and wet weather.³⁰⁹ According to Respondent, these concerns are corroborated by seasonal variations in the percentage of Grade 4 timber in the pine harvest between November and January, when the B.C. Interior tends to be wet, and between July and August, when it tends to be dry.³¹⁰
324. Respondent argues that it is well documented that the problem of "*disappearing checks*" in the winter and/or wet conditions was precisely what kiln re-drying was intended to address.³¹¹ The procedure was authorized by the Ministry to ensure that a log's grade reflected the objective physical characteristics of the log, rather than the season or the weather on the day it was scaled.³¹²

(ii) Kiln Warming Adds to Accuracy

325. Respondent relies on the expert report of Dr. Luiz Oliveira as evidence that kiln re-drying makes checks more visible, enhancing a scaler's ability to accurately grade checked logs, without materially altering the logs.³¹³
326. The grandfathered Scaling Regime requires that scalers identify and account for checks in logs. The Scaling Manual, however, does not specify any particular method for identifying checks; in particular, Respondent submits, it does not require that scaling be done unaided.³¹⁴ Rather, under the grandfathered system, scalers are free to use any technique for identifying existing checks, and no rule or principle limits the application of the 50/50 test to defects easily visible to the naked eye. According to Respondent,

³⁰⁸ R-PHB ¶ 125.

³⁰⁹ Rejoinder ¶127; C-138 at CAN-0007176; R-139 at CAN-007171; C-79 at CAN-007178-79; C-115 at CAN-007189; C-78 at CAN-007210; C-49 at CAN-011328; C-52 at CAN-010637.

³¹⁰ Rejoinder ¶128; Crover Supplemental Statement, App. B (R-148).

³¹¹ Rejoinder ¶129.

³¹² SoC ¶ 253.

³¹³ R-PHB ¶ 126; SoD ¶ 249; Oliveira Report (R-11).

³¹⁴ R-PHB ¶ 129.

even Claimant's expert witness Frank Duran, has no objection to the use of invasive tools and techniques to identify and measure checks.³¹⁵

327. Respondent emphasizes that kiln warming is merely a tool to assist scalers in accurately grading logs based on their physical characteristics. A government action authorizing the use of such tool to promote accurate results, Respondent submits, therefore cannot be a departure from the 50/50 test.³¹⁶
328. According to Respondent, Claimant's arguments that kiln re-drying causes misgrading are without basis. Claimant has conceded that kiln re-drying does not produce "*large-scale checks*."³¹⁷ Rather, Claimant's argument hinges on the assertion that the manner in which kiln re-drying is conducted means that the logs are "*likely*" to develop small-scale, superficial checks and that these permit the improper downgrading of logs that would otherwise be graded Grade 1 or Grade 2.³¹⁸
329. Respondent acknowledges that there is some evidence that small end checks may form during the kiln re-drying process. Such checks, however, are not taken into account in determining the log grade. Respondent states that disregarding or removing end checks was standard practice on kiln re-dried logs, and neither affected the grade assigned to the log.³¹⁹
330. Mr. Duran's assertion that the December 2007 Scaling Requirements "*required the scaler to count the end checks when grading the logs*"³²⁰ is contrary to B.C. policy as communicated by Ministry officials to scalers.³²¹ According to Respondent, the evidence is clear and unrebutted that scalers were not permitted to downgrade logs on the basis of the types of checks referred to by Mr. Duran.³²² Respondent emphasizes that this direction to scalers is confirmed in a training presentation prepared contemporaneously with the Scaling Requirements³²³ and an April 2009 memorandum

³¹⁵ Rejoinder ¶130; Duran Report ¶¶ 11-12, 16. (C-106).

³¹⁶ R-PHB ¶ 129.

³¹⁷ Rejoinder ¶134; Reply ¶¶ 183, 177.

³¹⁸ R-PHB ¶ 127; Rejoinder ¶ 134; Duran Report ¶¶ 15-17 (C-106).

³¹⁹ Rejoinder ¶¶ 134 *et seq.*

³²⁰ Rejoinder ¶136; Duran Report ¶ 17 referencing C-48 at CAN-008122 (C-106).

³²¹ Rejoinder ¶136; Crover Supplemental Statement ¶¶ 34-37 (R-148).

³²² R-PHB ¶ 128.

³²³ C-84 at CAN-010284.

clarifying the application of the December 2007 conventions,³²⁴ as well as in the witness testimony of James Crover.³²⁵

(iii) Kiln Warming Is Grandfathered

331. In any event, Respondent argues, kiln re-drying is permitted under the grandfathered scaling regime. It is a particularly effective tool that allows scalers to grade logs based on their actual physical characteristics, rather than superficial appearances that change with the weather. Authorizing such practice to promote accurate results under the grandfathered 50/50 test cannot constitute circumvention.³²⁶
332. Even if the Tribunal finds that kiln re-drying is not grandfathered, it would be safe harboured under Article XVII(a)(2) in that it would be a modification that maintains or improves the extent to which stumpage charges reflect market conditions, including changes in timber quality.³²⁷

c) The Tribunal's Considerations

333. It is Claimant's case that "[i]n 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 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."³²⁸
334. As stated above, Respondent acknowledges that B.C.'s allowing of kiln warming by the industry can fairly be characterized as a government action within the meaning of Article XVII SLA.³²⁹ The Tribunal agrees that the Ministry's decision to allow kiln warming qualifies as an action in terms of the SLA.

³²⁴ C-47 at CAN-026604; Rejoinder ¶ 136; R-PHB ¶ 128.

³²⁵ Crover Supplemental Witness Statement ¶¶ 34-37 (R-148).

³²⁶ R-PHB ¶ 129.

³²⁷ R-PHB ¶ 130.

³²⁸ Reply ¶ 202.

³²⁹ R-PHB ¶¶ 114, 115.

335. The Tribunal further notes that Respondent’s expert witness Dr. Joseph Kalt acknowledged “*that with respect to kiln-warming, I do find a statistically significant effect; that is, that kiln-warming did, indeed, contribute to the rise of Grade 4.*”³³⁰
336. While it is thus established that kiln warming contributed to the rise of Grade 4 since it was introduced in 2007, the issue remains whether B.C.’s action facilitated misgrading of sawlogs that otherwise pass the 50/50 test in circumvention of the SLA.
337. In the Tribunal’s view, Respondent has succeeded in showing that kiln warming actually improved grading accuracy by making existing checks visible which would not be visible without the process. Respondent’s expert witness Dr. Luiz Oliveira credibly testified that if properly handled, kiln warming discloses existing checks which enhances scalers’ ability to accurately grade checked logs.³³¹
338. The Tribunal therefore concurs with Respondent that such a process is merely a tool to assist scalers in accurately grading checked logs based on their physical characteristics. A government action allowing the use of such tool to promote the accuracy of grading under the grandfathered scaling conventions cannot be a circumvention of the SLA. The Tribunal therefore concludes that Claimant has not established that kiln warming as such was an action facilitating misgrading.
339. This being said, the Tribunal notes that Respondent’s expert witness Dr. Oliveira did not exclude that the process of kiln warming (and particular the re-drying) could produce new small scale checks, though he did not consider them to be important for grading purposes. While Respondent acknowledges that there is some evidence that such checks occur, it maintains they are not determinative for log grading.
340. Claimant acknowledges that the goal of kiln warming logs was not to create large cracks or damage the logs.³³² Rather, Claimant submits, the purpose of using kiln warming was to create small checks, mainly on the face of logs exposed to the warm and dry air in the lumber kilns. It is Claimant’s view that under the 2007 Scaling Requirements even minor end checks and surface checks are to be taken into account. Therefore, according to Claimant, the forming of such checks in kiln warming is relevant for grading

³³⁰ Transcript, page 1466, lines 16-19.

³³¹ Oliveira Report (R-11); Transcript, page 800, line 8 to page 801, line 13.

³³² Reply ¶ 165.

purposes³³³ and enabled scalers to downgrade the logs to Grade 4, in contravention of the 50/50 rule.³³⁴

341. The evidence has shown that small scale checks can indeed be a by-product of kiln warming. The issue is thus whether allowing an action that could cause small scale checks which might be relevant to grading under the 2007 Scaling Requirements facilitated misgrading sawlogs to Grade 4. This issue is therefore part of the question whether the 2007 Scaling Requirements introduced new rules regarding small scale checks, and whether their adoption constituted an action in circumvention of the SLA. This will be discussed at Section F.III.5.c below.

³³³ C-PHB ¶¶ 149, 150.

³³⁴ Reply ¶ 165.

4. Action 3: B.C. Urged Use of Bucking and New Sweep Formula to Facilitate Downgrading

342. In 2008, the Ministry began to actively encourage “*bucking*” at scale sites. The term “*bucking*” means cutting logs at the scaling site before the actual scaling. Bucking was aimed at improving the accuracy of defining Grade 4 MPB- killed timber at non-kiln warming sites.³³⁵ It requires Ministry approval.³³⁶

343. Additionally, in September 2007, the ISAC proposed a new “*sweep*” formula to be included in future versions of the Scaling Manual.³³⁷ The term “*sweep*” means the curvature along the length of the log. For logs over 5 meters long, the amount of sweep was to be calculated for each 2.5 meter section of the log. For logs between 2.5 and 4.9 meters, the amount of sweep was to be calculated for the log as a whole.³³⁸

a) Claimant's Position

(i) New Bucking Policy

344. According to Claimant, bucking was introduced as a new policy in a 13 November 2008 memorandum by the Ministry which referred to bucking as “*the new process to facilitate the bucking of logs at scale sites.*”³³⁹ Claimant further emphasizes that the memorandum provides for “*enhanced scaling practices,*” sets forth an implementation deadline and requests ISAC to “*develop the criteria, process and controls to accommodate the bucking.*”³⁴⁰

345. Claimant explains that the “*new bucking practice*”³⁴¹ referred to in the memorandum is, by the very terms of the memorandum, clearly distinguished from the historic practice of diagnostic bucking and considered a new policy.³⁴² According to Claimant, Respondent has presented no credible evidence that B.C. was merely encouraging diagnostic bucking.³⁴³

³³⁵ C-83 at CAN-011867.

³³⁶ C-19 at CAN-007446; C-85 at CAN-010535.

³³⁷ SoC ¶ 138; Reply ¶¶ 223 *et seq.*; C-80 at CAN-051101, CAN-051107-15.

³³⁸ C-80 at CAN-051110-15.

³³⁹ C-PHB ¶¶ 138, 139; C-83 at CAN-011867.

³⁴⁰ C-PHB ¶ 139; C-83 at CAN-011867.

³⁴¹ C-83 at CAN-011867.

³⁴² C-PHB ¶ 139.

³⁴³ C-PHB ¶ 142.

346. According to Claimant, bucking creates an enormous risk of misgrading because it allows rules regarding the minimum length of logs to factor into the grade decision, diverting more timber into Grade 4 inconsistent with the 50/50 rule.³⁴⁴ Claimant refers to an example set out in the 16 September 2008 minutes of the ISAC: Before scaling, a scaler may buck a log to a length of just under 5 meters. If the log is 4.99 meters long, under the check conventions codified in the Scaling Manual, any check is assumed to run 2.5 meters along the length of the log. Thus, if the first 2.5 meter segment of the log is downgraded due to checking, the second segment of the log is then below the minimum sawlog length of 2.5 meters. The scaler may then downgrade the entire 4.99 meter log.³⁴⁵

347. Claimant argues that B.C. was well aware of this downward effect of bucking.³⁴⁶ Claimant refers to [

] ³⁴⁷ a discussion by ISAC members in late 2008 that bucking practices were leading to downgrading of sawlogs less than 5 meters in length;³⁴⁸ a February 2009 e-mail in which the Ministry in fact acknowledged that bucking in practice did not comport with the 50/50 rule;³⁴⁹ and [

] ³⁵⁰

(ii) New Sweep Formula

348. Claimant claims that Interior scalers have diverted even more timber into Grade 4 by combining the practice of bucking with changes to the Scaling Manual for the treatment and evaluation of log "*sweep*."³⁵¹ Claimant claims that the new sweep provision created an incentive for companies to buck logs in order to classify more logs as Grade 4 even

³⁴⁴ C-PHB ¶¶ 137, 144.

³⁴⁵ C-87 at CAN-007368; C-PHB ¶ 144.

³⁴⁶ C-PHB ¶ 145.

³⁴⁷ Reply ¶ 213; C-PHB ¶ 145; C-166 at CAN-054993.

³⁴⁸ Reply ¶ 214; C-PHB ¶ 144; C-87 at CAN-007368.

³⁴⁹ Reply ¶ 215; C-167 at CAN-012239.

³⁵⁰ C-PHB ¶ 148; Reply ¶ 216; C-86 at CAN-026568.

³⁵¹ SoC ¶ 138.

though they would meet the 50/50 sawlog standard.³⁵² Claimant further alleges that []³⁵³

349. According to Claimant, the new rule for the calculation of sweep provides dramatically different results for a 4.99 meter log than for a 5 meter log. When applied to a comparable log with a comparable amount of sweep, a 5 meter log would have a [], while a 4.99 meter log would have a []³⁵⁴

350. Claimant further submits that research on lodgepole pine yields in B.C. indicates that sweep does in fact affect this form of pine,³⁵⁵ which is why the new sweep formula had an effect on lodgepole pine grading.

b) Respondent's Position

(i) No Effect of Bucking Policy on Grading

351. Respondent emphasizes that B.C. developed its 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 caused by the mountain pine beetle.³⁵⁶ Respondent explains that the Ministry was concerned that mills without kiln re-drying capabilities did not have comparable tools to identify checks and determine their depth. This is why, Respondent submits, it decided to encourage diagnostic bucking as a way to reveal the true extent of the defects.³⁵⁷

352. Respondent argues that the communication by which Claimant alleges that B.C. actively encouraged a new bucking policy at scale sites, the 13 November 2008 memorandum, was in fact such request to ISAC to develop a policy proposal to encourage more use of bucking as a diagnostic tool.³⁵⁸ This type of bucking had always been used for the purpose of identifying defects that are not readily visible, according to Respondent.³⁵⁹

³⁵² SoC ¶ 140.

³⁵³ C-55 at CAN-007300.

³⁵⁴ SoC ¶ 139; C-55 at CAN-007300 and CAN-007305.

³⁵⁵ Reply ¶ 220; C-170.

³⁵⁶ R-PHB ¶ 162.

³⁵⁷ Rejoinder ¶ 98; C-83 at CAN-001867.

³⁵⁸ R-PHB ¶ 153.

³⁵⁹ R-PHB ¶ 162.

However, as emphasized by Respondent, it does not change log length for purposes of scaling.³⁶⁰ No policy to this effect was developed or implemented.³⁶¹

353. Accordingly, Respondent submits, the alleged "*new*" policy was no change at all.³⁶² It was "*new*" only to the extent that it may have promoted the increased usage of an existing practice. In particular, Respondent explains, the purpose was not to downgrade logs, but to provide better quality observations about the features (including checks) actually present on the logs.³⁶³ Respondent points to Claimant's expert witness Frank Duran's endorsement of bucking to assess the depth and length of weather checks as the type of bucking that the Ministry sought to encourage.³⁶⁴
354. What is more, Respondent stresses, is that "*bucking to downgrade*" is expressly prohibited by B.C., and the Ministry reinforced this rule in its communications with scalers.³⁶⁵
355. Finally, Respondent explains that the November 2008 memorandum only contained instructions to ISAC rather than directions to scalers. While the Ministry may have proposed encouraging the use of bucking, and while ISAC may have discussed these proposals, ultimately they were not adopted. There was no change in policy, and there is no evidence that the memorandum alone led to any change in scaling practice.³⁶⁶
356. Even more so, Respondent submits, there is no evidence that it could have caused misgrading timber as Grade 4.³⁶⁷ Claimant's submissions do not support a claim that bucking caused increases in levels of Grade 4. Respondent claims that the most Claimant actually says is that bucking "*created a risk that the industry will use the policy to downgrade lumber-suitable logs.*"³⁶⁸

³⁶⁰ Rejoinder ¶¶ 100 *et seq.*; R-PHB ¶¶ 157 *et seq.*; *see* Reply ¶¶ 204-210.

³⁶¹ R-PHB ¶ 164; Crover Statement ¶ 106 (R-3).

³⁶² Rejoinder ¶ 98.

³⁶³ Rejoinder ¶ 99.

³⁶⁴ *Id.*; Duran Report ¶ 18 (C-106).

³⁶⁵ Rejoinder ¶ 101; Scaling Manual (May 1, 2007), § 8.5.1 at 8-24 (C-50).

³⁶⁶ R-PHB ¶¶ 163, 164.

³⁶⁷ R-PHB ¶ 165.

³⁶⁸ Rejoinder ¶ 102; Reply ¶ 218 (emphasis added).

(ii) Bucking Is a Grandfathered Practice

357. Respondent submits that in any event, bucking at scale sites subject to Ministry approval is a grandfathered part of B.C.'s timber pricing system.³⁶⁹ It existed prior to and at the time of the SLA.³⁷⁰ The Scaling Regulations have permitted bucking at the scale site with Ministry approval since at least 1995. Respondent relies on its witness James Crover to show that the standard for authorizing bucking at scale sites has been consistently applied since long before the SLA came into force.³⁷¹

(iii) No Effect of New Sweep Formula

358. Finally, Respondent refers to Claimant's allegations that scalers have diverted timber into Grade 4 by combining bucking and the grandfathered rules relating to sweep. However, Respondent explains that sweep has little effect on the grading of lodgepole pine since it is a very straight species of tree that is not prone to sweep.³⁷²

359. Respondent submits that Claimant's arguments regarding the relationship between bucking and "sweep" are therefore irrelevant.³⁷³ None of Claimant's witnesses has disputed Respondent's expert Dr. Katherine Lewis' testimony that lodgepole pine is rarely affected by sweep.³⁷⁴ Also, Respondent states, the Scaling Manual does not list sweep as a common defect for lodgepole pine.³⁷⁵

360. In addition, the scaling rules regarding the assessment of sweep did not change. Scalers have always been required to assess logs in 2.5 meter segments. With regard to sweep, scalers must determine whether a straight line of at least 2.5 meters exists.³⁷⁶ As explained by Mr. Crover, the effect of sweep is less significant when applied over two 2.5 meter segments than when it is applied over a single 4.9 meter segment. This fact has not changed since April 2006.³⁷⁷

³⁶⁹ R-PHB ¶ 152.

³⁷⁰ SoD ¶ 211.

³⁷¹ *Id.*; R-PHB ¶ 152; Scaling Regulations, B.C. Reg. 563/78, § 4 (R-145) and Crover Statement ¶ 103 (R-3).

³⁷² R-PHB ¶ 166.

³⁷³ Rejoinder ¶ 103.

³⁷⁴ Rejoinder ¶ 103; Lewis Report ¶¶ 77-79 (R-10).

³⁷⁵ Rejoinder ¶ 103; Scaling Manual (June 30, 2006) compare § 3.2.4 at 3-9 (Douglas fir) with § 3.2.7 at 3-12 (Lodgepole Pine) (R-19).

³⁷⁶ SoD ¶ 215; Scaling Manual (June 30, 2006), § 6.4.2.7 at 6-49 (R-19).

³⁷⁷ SoD ¶ 215.

c) The Tribunal's Considerations

(i) Bucking

361. It is Claimant's case that through promoting the practice of bucking at scale sites, Respondent effectively caused the downgrading of otherwise Grade 1 or Grade 2 logs to Grade 4.
362. Claimant refers to the Ministry's 13 November 2008 memorandum (C-83) in which Claimant says the Ministry announced a new policy of actively encouraging bucking at scale sites. According to Respondent, the Ministry memorandum was merely a request to ISAC to develop a proposal for a policy that was never developed or implemented.³⁷⁸
363. It is common ground that the increased use of bucking was considered by the Ministry as an option to assist non-kiln warming operations in identifying checks caused by the MPB.³⁷⁹
364. The November 2008 memorandum sets forth "*guiding principles*" intended to enable ISAC "*to develop enhanced scaling practices to further improve the accuracy of defining Grade 4 beetle-killed timber at non-kiln-warming sites.*" The memorandum further requests ISAC "*to develop the criteria, process and controls to accommodate the bucking.*" The memorandum describes the steps to be taken as "*the new process to facilitate the bucking of logs at scale sites*" and speaks of "*new bucking practices.*"
365. The terms of the November 2008 memorandum from the Ministry to ISAC therefore indeed suggest that Respondent wanted to introduce a new policy.³⁸⁰ Thus, the question is whether the proposed new guiding principles on bucking amount to an action by B.C. which facilitated misgrading, in particular for logs of a length of just under 5 meters.
366. In that regard, the Tribunal notes that B.C. addressed the issue of "*bucking to downgrade,*" particularly for logs of less than 5 meters in length, in various documents. Already before the April 2006 reforms, the ISAC minutes of meeting of 28 June 2005 (R-183) state that "*Revenue Branch will take action if bucking is done for the sole purpose of downgrading logs to Grade 4.*" Then, the 2007 Scaling Manual (C-50) at

³⁷⁸ SoD ¶ 210.

³⁷⁹ Reply ¶ 206; R-PHB ¶ 162

³⁸⁰ Reply ¶ 208; C-PHB ¶ 139.

Section 8.5.1 at 8-24 states that “*scalers must be cautioned that [...] when logs are bucked shorter than 4.9 meters, scalers must not, and should not automatically downgrade based on ‘the heart rot in one end’ convention. Bucking practices must be conducted for the purpose of ensuring an accurate scale.*”

367. B.C. further confirmed this prohibition in a memorandum dated 8 August 2007 (C-85) by the Ministry to scaling staff, stating that bucking “*is not to be used as a means to manufacture more sawlog grade logs, or more lumber reject grade logs, but rather to help identify the proper grade of the logs.*”
368. Considering these documents, the Tribunal finds that B.C. actively attempted to prevent misgrading resulting from bucking. This contradicts Claimant’s argument that the new bucking policy introduced by the Ministry in November 2008 facilitated the misgrading of sawlog timber to Grade 4.
369. In any event, the Tribunal shares Respondent’s view that bucking at scale sites subject to Ministry approval is a grandfathered part of B.C.’s scaling regulations. This was convincingly confirmed by Respondent’s witness James Crover who stated in his written witness statement that the “*practice of bucking at scale sites predates the adoption of the SLA in 2006, and is probably as old as scaling itself.*”³⁸¹
370. In conclusion, the Tribunal finds that Claimant has not established that the promotion of the practice of bucking at scale sites by the Ministry circumvented the SLA.

(ii) New Sweep Formula

371. As regards the issue of sweep, Claimant’s case is that B.C.’s action circumventing the SLA is to be found in the new sweep formula [

]

372. In his witness statement, Respondent’s witness Mr. Crover confirmed that before the adoption of the new sweep formula 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 meter segments.³⁸²

³⁸¹ Crover Statement ¶ 101 (R-3).

³⁸² Crover Statement ¶ 109 (R-3).

373. The Parties are in dispute whether the introduction of the new sweep formula (C-48 at CAN-008115 *et seq.*) constitutes an action. In the Tribunal's view, this can be left open since Claimant has not established that sweep has any material effect on lodgepole pine. Rather, Respondent's expert witness Dr. Katherine Lewis testified that sweep is a very rare condition in lodgepole pine, hence the name.³⁸³ Dr. Lewis' testimony was not contradicted. In addition, the Scaling Manual does not list sweep as a common defect for lodgepole pine.³⁸⁴
374. The Tribunal therefore concludes that Claimant has failed to establish that B.C.'s introduction of the new sweep formula amounts to an action facilitating misgrading of lodgepole pine.

³⁸³ Lewis Report, Chapter VIII, ¶¶ 77 *et seq.* (R-10).

³⁸⁴ R-19, compare § 3.2.4 at 3-9 (Douglas fir) with § 3.2.7 at 3-12 (Lodgepole Pine).

5. Action 4: B.C. Made Changes to the Scaling Manual to Facilitate Downgrading

375. Effective as of 1 December 2007, the Ministry enacted the new Scaling Requirements for checked logs.³⁸⁵ The declared purpose was "*to bring consistency and to recognize the difficulties in measuring checks between scale sites in the Interior.*"³⁸⁶ The new grading conventions applied to logs displaying blue stain or beetle galleries,³⁸⁷ characteristics primarily found in MPB timber. Logs that did not display blue stain or galleries associated with MPB were addressed and graded under the usual grading standard.³⁸⁸
376. The modifications included, *inter alia*, changes to the Scaling Manual. Section 9.2.2 of the Scaling Manual which had previously excluded surface checks two centimeters or less in depth as part of a grade reduction calculation was deleted.³⁸⁹ B.C. also allowed the scalers 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.³⁹⁰ Finally, B.C. enacted the "*two-centimeter collar rule*" that applies to logs "*with less than 50% bark covering (visual estimate +/- 10%) and also displaying blue stain or beetle galleries.*"³⁹¹ The rule provides that for logs with a radius equal to or greater than 10 centimeters, scalers are to subtract two centimeters of radius from the diameter as a grade reduction.³⁹² This rule can lead to a reduction in the volume of the timber available to make lumber from such logs, and can thus lead to a reduction in grade pursuant to the 50/50 rule.
377. The modifications of the Scaling Manual were in place in July 2007 and were codified in December 2007 as part of the new Scaling Requirements.

³⁸⁵ C-84 at CAN-010278; C-82 at CAN-011400-02.

³⁸⁶ C-82 at CAN-011400-02; C-84 at CAN-010280.

³⁸⁷ C-82 at CAN-011400-02.

³⁸⁸ C-48 at CAN-008131, Section 9.5.4.1.

³⁸⁹ C-84 at CAN-010282; C-82 at CAN-011400-02.

³⁹⁰ C-84 at CAN-010283; C-82 at CAN-011400-02.

³⁹¹ C-48 at CAN-008131.

³⁹² *Id.*

a) Claimant's Position

378. Claimant emphasizes that while the grandfathered April 2006 reforms required that all pine was graded against the same standard and in the same manner, this principle was violated by the Scaling Requirements which introduced amendments applicable only to MPB-killed timber, and even further distinguished between MPB-killed timber with less, and with more, than 50 % bark coverage, assessing each category by different standards. These distinctions depart from the grandfathered system.³⁹³ The idea of the grandfathered reforms was that 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.³⁹⁴ Now, a log may be graded differently based on whether or not it is an MPB log. There is no plausible reason for this.

379. Claimant submits that within the new requirements applicable only to MPB-killed timber, there were at least three changes to the scaling and grading system which allowed scalers to more easily downgrade MPB timber (see below (i)-(iii)). Claimant claims that this is a modification of the grandfathered system and does not maintain or improve the extent to which price reflects market conditions. All of the new conventions resulted in logs that would have been Grade 2 under the grandfathered system likely being classified as Grade 4,³⁹⁵ i.e., facilitated the downgrading of MPB logs without considering whether the MPB log is suitable for lumber and meets the 50/50 rule.³⁹⁶

380. Claimant concludes that industry has benefited from the amendments because, under the new Scaling Requirements, B.C. is selling more sawlog timber to industry at the Grade 4 price. Thus, the December 2007 Scaling Requirements circumvent the SLA.³⁹⁷

(i) Surface Checks

381. Claimant explains that under the grandfathered system, shallow surface checks two centimeters or less in depth were not entered in grade reduction.³⁹⁸ As of May 2007, however, B.C. began to consider such checks in the grade reduction calculation. Claimant points to the Scaling Requirements which state that the previous instruction in

³⁹³ C-PHB ¶¶ 100, 101.

³⁹⁴ Reply ¶ 238; C-22 at CAN-00420 and SoC ¶¶ 41-43, 47-49.

³⁹⁵ C-PHB ¶ 103.

³⁹⁶ Reply ¶ 233.

³⁹⁷ Reply ¶ 242.

³⁹⁸ C-PHB ¶ 104; R-19 at 6.4.4.

Section 9.2.2 of the Scaling Manual that “*surface checks 2 cm or less in depth are not entered in the grade reduction calculation*” no longer applies.³⁹⁹ In addition, Claimant emphasizes, B.C. clarified that all “*visible checks at log ends must be considered.*”⁴⁰⁰

382. According to Claimant, these modifications were introduced in July 2007, formally took effect in December 2007 and were incorporated in the 2008 Scaling Manual where they were manifested in the deletion of the respective wording from Section 9.2.2.⁴⁰¹ As a consequence, Claimant submits, scalers were allowed to consider any and all visible checks when assessing the applicable grade reduction⁴⁰² starting in December 2007.⁴⁰³ This even applies where only a thin black line is visible at the log end and/or bole.⁴⁰⁴ According to Claimant, this was a change to the grandfathered system which increased the share of Grade 4.⁴⁰⁵

383. Claimant alleges that Respondent has failed to prove that the deductions for every check, even if only a black line, are more accurate in implementing the 50/50 rule. According to Claimant, they are not. Small-scale surface checking does not prevent the manufacture of lumber.⁴⁰⁶ Such logs could still be used to produce lumber qualifying as Grade 2 or better.⁴⁰⁷

384. Claimant concludes that B.C. was allowing volume deductions for checks that did not impact the log’s ability to meet the 50/50 rule. This provided a benefit to the industry because it was able to downgrade logs that would have been Grade 2 to Grade 4 on the basis of larger volume reductions than under the grandfathered system.⁴⁰⁸

(ii) The Two-Centimeter Collar Rule

385. Claimant further claims that the newly-introduced two-centimeter collar rule diverts MPB timber to Grade 4. Claimant emphasizes that for a 10 centimeter log (missing more than 50 % of its bark), the two-centimeter collar rule creates an initial reduction of

³⁹⁹ C-PHB ¶ 105; C-82 at CAN-011402.

⁴⁰⁰ C-PHB ¶ 105; C-82 at CAN-011402.

⁴⁰¹ C-PHB ¶ 105 ¶¶ 107 *et seq.* ; C-48 at CAN-008122.

⁴⁰² C-84 at CAN-010285; C-82 at CAN-011402.

⁴⁰³ C-PHB ¶¶ 105, 107 *et seq.*

⁴⁰⁴ Reply ¶ 233.

⁴⁰⁵ C-PHB ¶ 105.

⁴⁰⁶ C-107 ¶ 46; Reply ¶ 240.

⁴⁰⁷ Reply ¶ 240; C-107 at ¶¶ 46, 47.

⁴⁰⁸ Reply ¶ 242; C-PHB ¶ 106.

the total volume available by more than one-third, effectively creating an automatic grade reduction for MPB timber.⁴⁰⁹

386. This means that a significant portion of the log's volume is treated as not suitable for lumber production, even if the log has no visible defects that would indicate in any way that this portion of the volume is, in fact, not suitable for lumber production.⁴¹⁰ Claimant emphasizes that this is an entirely new deduction applied as of December 2007 without any similar provision in the 2006 Scaling Manual.⁴¹¹
387. Claimant points out that Respondent conceded that the two-centimeter collar rule applied even more broadly than the language of the 2007 Scaling Requirements⁴¹² permits. While on the face of the document, the rule only applies to logs with a radius equal to or greater than 10 centimeters, Respondent's witness James Crover conceded that the new rule was applied more broadly which, Claimant submits, resulted in more downgrades.⁴¹³
388. Because the two-centimeter collar rule applies without regard to the actual quantity and quality of lumber that a log will produce, this change to the scaling policy cannot be shown to maintain or improve the relationship between the stumpage fee and market conditions.⁴¹⁴ Rather, it was a substantial change to the Scaling Manual which increases the probability that MPB timber will be classified as Grade 4 even if it produces sufficient merchantable lumber to satisfy the 50/50 rule, placing a significant number of logs that would be Grade 2 into Grade 4. Claimant alleges that there was no purpose to this change except to increase the amount of Grade 4.⁴¹⁵

(iii) Length of Checks Convention

389. Claimant further points to the new convention that checks visible only at the end of the log, but not on the surface, are to be considered as running half the length of the log up to a maximum of 2.5 meters. According to Claimant, this allows B.C. producers to

⁴⁰⁹ SoC ¶ 116; C-PHB ¶¶ 122, 123.

⁴¹⁰ C-PHB ¶ 122; SoC ¶ 115.

⁴¹¹ C-PHB ¶ 122.

⁴¹² C-82 at CAN-011402.

⁴¹³ C-PHB ¶ 129.

⁴¹⁴ SoC ¶ 117.

⁴¹⁵ C-PHB ¶ 133.

receive a grade reduction for the entire log segment based only on the exhibited end checking, amounting to 50 % of a common length log of five meters.⁴¹⁶

390. Claimant emphasizes that this, too, is an entirely new rule in departure of the grandfathered system. It had a specifically significant impact when combined with the new ability to consider any visible check. A scaler could treat an entire log segment as a grade reduction simply because there was a visible check on the end.⁴¹⁷

(iv) No Exception under Article XVII SLA

391. Finally, Claimant stresses that the new Scaling Requirements do not qualify as exception under Article XVII of the SLA 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.⁴¹⁸ Rather, they have 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.⁴¹⁹

b) Respondent's Position

392. Respondent points out that the Scaling Requirements, by purpose and effect, facilitated accurate and efficient application of the 50/50 test in accordance with the grandfathered Scaling Rules. As such, they are no departure from B.C.'s grandfathered system.⁴²⁰

393. Respondent explains that checks are the most significant type of defects in MPB-killed pine. Claimant's experts acknowledge this fact.⁴²¹ B.C. anticipated that MPB-killed timber would increase when introducing the April 2006 reforms.⁴²² B.C. did not, however, expect the increase in the number of heavily checked logs or how difficult it would be to identify and measure checks in MPB-killed logs under the wet weather conditions that prevail during the autumn and winter's peak harvest season.⁴²³

⁴¹⁶ Reply ¶ 233; C-PHB ¶¶ 134, 135.

⁴¹⁷ C-PHB ¶¶ 134, 135.

⁴¹⁸ C-PHB ¶ 136; Reply ¶ 237; SoC ¶ 113.

⁴¹⁹ Reply ¶ 241.

⁴²⁰ R-PHB ¶ 133.

⁴²¹ Rejoinder ¶ 107; Fettig Report ¶¶ 7, 16, 23 (C-104); Beck Report ¶¶ 34-35 (C-107).

⁴²² SoD ¶ 217.

⁴²³ Crover Statement ¶¶ 78, 80 (R-2).

394. According to Respondent, B.C.'s monitoring efforts showed that among the most severe difficulties were the detection and treatment of checks by the scalers⁴²⁴ and that scalers in different districts and regions were attempting to deal with these difficulties differently.⁴²⁵ In response to this development, the Ministry issued the 2007 Scaling Requirements to increase the efficiency, accuracy and consistency of the grandfathered Scaling Regime.⁴²⁶
395. Respondent claims that the specific elements of the Scaling Requirements characterized by Claimant as untested departures from the 50/50 rule were in fact developed specifically to maintain adherence to this rule.⁴²⁷ Respondent argues that the Scaling Requirements ensured that beetle-killed logs with significant checking were properly graded.⁴²⁸ By allowing scalers to accurately assess the proper grades of logs based on a procedure that applied the 50/50 rule, the Scaling Requirements did not confer a benefit on producers or exporters of Softwood Lumber.⁴²⁹

(i) Relevance of Surface Checks for Grading

396. Respondent states that B.C.'s focus on checks as determinative of grade for MPB logs in the 2007 Scaling Requirements was no departure from previous practice. According to Respondent, numerous sections of the 2006 Scaling Manual⁴³⁰ deal with volume deductions for checks when grading. By definition, "*checks*," including shallow surface checks, are "*defects*"⁴³¹ that affect grade under the grandfathered system.⁴³² Respondent states that this is confirmed in Section 9.2.3 of the 2007 Scaling Manual according to which "*a check is a check, is a check,*"⁴³³ and which makes no distinction as to the size of a check.
397. According to Respondent, Section 9.2.2 of the Scaling Manual never prohibited surface checks two centimeters or less in depth from being part of the grade reduction calculation, as alleged by Claimant. Rather, Respondent argues, when read in context,

⁴²⁴ SoD ¶ 218; SIFR Scaling Conference Call minutes (Oct. 25, 2007) at CAN-010606-09.

⁴²⁵ SoD ¶ 218; Crover Statement ¶ 81 (R-3).

⁴²⁶ SoD ¶ 220; Crover Statement ¶¶ 102-105 (R-3).

⁴²⁷ SoD ¶ 221.

⁴²⁸ Rejoinder ¶ 120.

⁴²⁹ Rejoinder ¶ 120.

⁴³⁰ Scaling Manual (June 30, 2006), § 6.3.1.1, at 6-7; § 6.4.2.5 at 6-23 (R-19).

⁴³¹ R-PHB ¶ 142; Rejoinder ¶ 109; Scaling Manual (June 30, 2006) Glossary of Terms at G-4 (R-19).

⁴³² Rejoinder ¶ 114.

⁴³³ R-PHB ¶ 141; C-50 § 9.2.3 at 9-5.

the provision only relates to surface checks which resulted from delays in scaling. According to Respondent, checks which were not cause by delays in scaling could always be considered.⁴³⁴

398. Respondent submits that the amendments in the 2007 Scaling Requirements only reinforced the definition of checks as already contained in the Scaling Manual⁴³⁵ and clarified a potential tension in the interpretation of Section 9.2.2 which was erroneously understood by some scalers as prohibiting consideration of two centimeter checks under all circumstances.⁴³⁶ Respondent submits that the Ministry resolved this potential contradiction within the Scaling Manual through the Scaling Requirements by allowing the consideration of shallow surface checks in a narrow set of circumstances consistent with the 50/50 rule.⁴³⁷

399. Respondent stresses, though, that the shallow surface checks were not made subject to trim allowance, meaning that those checks will have little, if any, effect on the calculation of available volume.⁴³⁸

(ii) The Two-Centimeter Collar Rule

400. Respondent points out that the Scaling Manual has stated since at least 1996, and still states, that "*surface and end checks due to delays in processing are disregarded for the purposes of grading.*"⁴³⁹ However, surface checks develop in MPB-killed logs for other reasons, notably the drying out of the tree after it dies.⁴⁴⁰

401. Respondent explains that the Ministry and industry scalers observed that MPB-killed grey stage logs develop shallow surface checking around the perimeter, particularly those logs with loose or missing bark.⁴⁴¹ Respondent submits statements from its expert witnesses Professor Katherine Lewis and Dr. Luiz Oliveira to confirm that such closely-positioned surface checks are consistent with their understanding of how trees dry when

⁴³⁴ R-PHB ¶ 140.

⁴³⁵ Rejoinder ¶ 117.

⁴³⁶ C-52; R-PHB ¶ 143.

⁴³⁷ R-PHB ¶ 143.

⁴³⁸ R-PHB ¶ 144.

⁴³⁹ Rejoinder ¶ 110; Scaling Manual (November 1, 1996), § 6.3.1.1 at 6-7 to 6-8 (R-185).

⁴⁴⁰ Rejoinder ¶ 110; Lewis Report (R-10).

⁴⁴¹ R-PHB ¶ 136.

attacked by the MPB.⁴⁴² According to Respondent, Claimant has presented no evidence to the contrary.

402. Respondent explains that such shallow checks are difficult to detect because MPB-killed timber is subject to rapid swelling and drying in response to the presence or absence of moisture. Therefore, the Ministry chose missing bark as an easy-to-identify and reliable indicator that the tree has been dead for a long period and was likely to have extensive checking around the perimeter as a prerequisite to applying the two-centimeter collar rule.⁴⁴³ Respondent explains that this resolved the ambiguity between weather checks caused by delays in scaling and surface checks around the perimeter caused by the MPB.⁴⁴⁴
403. Respondent emphasizes that the deduction of a two-centimeter collar as the volume lost to shallow surface checking from the overall available volume is entirely consistent with the 50/50 rule.⁴⁴⁵ Such volume is not available to manufacture fracture-free lumber. Respondent points to the long-existing rule that where there are less than 10 centimeters of wood between multiple defects on a log, the available material separating the defects is to be deducted from the available volume to produce lumber (the “*10 cm between defects rule*”).⁴⁴⁶ Applying this grandfathered rule to MPB-killed logs with closely-positioned surface checks results in a collar deduction analogous to the two-centimeter collar rule.⁴⁴⁷ Thus, there is no departure from the grandfathered system.
404. Furthermore, Respondent submits, the two-centimeter collar rule only applies to a small subset of logs and cannot explain the increase in Grade 4. Respondent explains that in 2008, the year following the implementation of the Scaling Requirements, only about three percent of the pine harvest could have been potentially subject to the two-centimeter collar rule. This small volume, Respondent argues, simply cannot account for the year to year variation in Grade 4.⁴⁴⁸

⁴⁴² Lewis Report ¶ 56 *et seq.* (R-10); Oliveira Report ¶ 11 *et seq.* (R-11).

⁴⁴³ R-PHB ¶ 137.

⁴⁴⁴ Rejoinder ¶ 111; C-82 at CAN-028338; R-31; Crover Statement ¶¶ 99-100 (R-3).

⁴⁴⁵ Rejoinder ¶ 113.

⁴⁴⁶ Scaling Manual (Nov. 1, 1996), § 6.4.2.3 at 6-19 (R-185); Rejoinder ¶ 109.

⁴⁴⁷ Rejoinder ¶ 109.

⁴⁴⁸ R-PHB ¶ 146.

(iii) Length of Checks Convention

405. Respondent maintains that this convention is consistent with the grandfathered Scaling Regime and refers to the Supplemental Witness Statement of its witness James Crover.⁴⁴⁹ Mr. Crover claims that conventions such as this are to be used by the scaler in the exercise of his judgment. Further, it is consistent with the longstanding practice of estimating length of defects articulated in the 2006 Scaling Manual which provides that when there are no “*accepted indicators*” or established local knowledge for assessing the length of an obscured defect, the convention for estimating rot may be employed, namely to run the defect half the length of the log.⁴⁵⁰

(iv) The Scaling Requirements Did Not Lead to Misgrading

406. Respondent emphasizes that Claimant presents no empirical evidence to suggest that the Scaling Requirements resulted in a single instance of inaccurate application of the 50/50 rule, much less the inappropriate diversion of MPB-killed timber into Grade 4.⁴⁵¹

(v) Scaling Requirements Are Grandfathered and/or Safe Harboured

407. Respondent argues that in any event, the Scaling Requirements are consistent with, and are applications of, the Scaling Regulations and Scaling Manual as they existed on 1 July 2006 and are therefore grandfathered under Article XVII(2)(a).⁴⁵² According to Respondent, the calculations used in the Scaling Requirements are consistent with the requirements of the Scaling Regulations as implemented by the 30 June 2006 Scaling Manual.⁴⁵³

408. Respondent recalls that it would be impractical, if not impossible, for B.C. scalers to simply “*apply the 50/50 test*” without further guidance. Different answers by the scalers to the many questions arising in the course of applying the 50/50 test would lead to

⁴⁴⁹ *Id.* at ¶ 149.

⁴⁵⁰ R-148 ¶¶ 18-21.

⁴⁵¹ R-PHB ¶ 150.

⁴⁵² Rejoinder ¶ 121; Crover Statement ¶¶ 92-94 (R-3); Crover Supplemental Statement ¶¶ 23-28, App. A (R-148).

⁴⁵³ SoD ¶ 232.

different grading outcomes. According to Respondent, the Scaling Manual answers each of these questions and is therefore a necessary part of the grandfathered system.⁴⁵⁴

409. Therefore, the Scaling Manual and B.C. scaler reliance on its guidance – including how the Scaling Manual instructs scalers to apply the 50/50 test – are core components of the provincial scaling system that existed on 1 July 2006, and are grandfathered under Article XVII(2)(a).⁴⁵⁵
410. Respondent submits that even if not grandfathered, the Scaling Requirements fall within the Article XVII(2)(a) safe harbour. They were part of the attempt to deal with the rapidly declining timber quality in B.C. due to the MPB epidemic and allow scalers to more accurately and efficiently assess the quality of MPB-killed timber. According to Respondent, they therefore improved the extent to which stumpage charges reflect market conditions.⁴⁵⁶
411. Finally, Respondent refers to the SLA which states that "*other factors affecting the value of the province's timber, such as transportation costs, exchange rates, and timber quality and natural harvesting conditions, do not constitute circumvention.*"⁴⁵⁷ Respondent argues that this language reflects the Parties' understanding that timber quality is an important element of forest management which may fluctuate without constituting a circumvention of the SLA.⁴⁵⁸ Accordingly, Respondent submits, the adoption of methods that more accurately assess the quality of timber, and therefore maintain or improve the extent to which stumpage charges reflect market conditions, are protected by Article XVII(2)(a)'s safe harbour and are not a circumvention.⁴⁵⁹

c) The Tribunal's Considerations

412. It is Claimant's case that Respondent caused the misgrading of lodgepole pine as Grade 4 instead of Grades 1 or 2 by implementing the new Scaling Requirements effective as of 1 December 2007 (C-82), in particular through introducing the two-centimeter collar rule, on the one hand, and by deleting Section 9.2.2 of the old Scaling Manual which

⁴⁵⁴ Rejoinder ¶ 43; Crover Statement ¶ 51 (R-3); Scaling Regulations, B.C. Reg. 250/88, Schedule 2, § 1(1) (R-23).

⁴⁵⁵ Rejoinder ¶ 44.

⁴⁵⁶ SoD ¶ 233; Kalt Report ¶ 55 (R-9).

⁴⁵⁷ SLA, Article XVII(2)(a) (R-1 (emphasis added)).

⁴⁵⁸ SoD ¶ 234.

⁴⁵⁹ *Id.*

resulted in surface checks two centimeters or less in depth being entered into the grade reduction calculation, on the other hand.

(i) Surface and End Checks

413. As regards the surface checks, the relevant provisions of the 2007 Scaling Manual read as follows:⁴⁶⁰

9.2.2 Surface or Weather Checks

- Logs subjected to prolonged decking prior to scaling and logs cut from trap trees (an insect control measure) are graded as if they were without checks.
- Surface checks 2 cm or less in depth are not a part of the grade reduction calculation.

In circumstances where surface and end checks are due to delays in scaling the Forest Service may order the checks to be disregarded.

9.2.3 Delay in Scaling

For the purpose of assessing checks, "a check is a check, is a check", unless;

- logs have been decked for a period of time such that the ends of the logs are dark and weathered,
- a field scale was previously conducted on the timber, or
- a determination has been made by the District Manager that a delay has occurred.

414. The 2007 Scaling Requirements dealt with surface and end checks in the notes to the new requirements as follows (C-82):

*The current statement in the Scaling Manual, section 9.2.2, that states "surface checks 2 cm or less in depth are not part of the grade reduction calculation" will no longer be applicable.
*All visible checks at log ends must be considered, regardless of depth or width, or whether a feeler gauge can be inserted. For example: a thin black line visible at the log end and/or bole may be considered a check.
*In the event that these requirements appear to contradict what is currently in the Scaling manual, these requirements will supersede those sections.

⁴⁶⁰ C-50.

415. Following the implementation of the 2007 Scaling Requirements, the corresponding provisions in the 2008 Scaling Manual (C-48) read as follows:

9.2.3 Delay in Scaling

A delay in scaling is determined as follows:

- logs have been decked for a period of time such that the ends of the logs are dark and weathered,
- a field scale was previously conducted on the timber, or
- a determination has been made by the District Manager that a delay has occurred.

In circumstances where surface and end checks are due to delays in scaling the Forest Service will order these checks to be disregarded.

416. As pointed out above, the Parties have different interpretations of Sections 9.2.2 and 9.2.3 of the 2007 Scaling Manual (C-50). Claimant's position is that those sections read in conjunction with the box that follows mean that all surface checks two centimeters or less are not considered in the grade reduction and that checks greater than two centimeters that are caused by delay may be disregarded.⁴⁶¹ For Claimant, this changed with the introduction of the 2007 Scaling Requirements, according to which all checks had to be considered, even if only a thin black line is visible at the log end and/or bole.

417. By contrast, Respondent's position is that surface checks were assumed to have been caused by post-harvest delays in scaling and that the language of Section 9.2.2. read in context with Section 9.2.3 and the box that follows indicates that such checks could be considered if they were not caused by delays in scaling. Respondent submits that the

⁴⁶¹ C-PHB ¶ 120.

amendments in the 2007 Scaling Requirements only clarified a potential contradiction in the interpretation of the Scaling Manual.⁴⁶²

418. Thus, the Parties are in dispute whether the 2007 Scaling Requirements introduced a new practice regarding small surface and end checks or whether they were merely a clarification to the grandfathered practice as set forth in the 2007 Scaling Manual.

(ii) Two-Centimeter Collar Rule

419. The two-centimeter collar rule introduced by the 2007 Scaling Requirements goes one step further by allowing the scalers to automatically deduct two centimeters from the radius of an MPB log that is 10 centimeters or more in radius and missing more than 50 % of its bark.

420. Respondent’s witness James Crover testified that, as a matter of practice, the new rule also applied to logs less than 10 centimeters in radius.⁴⁶³

421. It is undisputed that the two-centimeter collar rule was not part of the 2007 Scaling Manual. For Claimant, this is a clear departure from the grandfathered system. Respondent, however, maintains that applying the grandfathered “*ten centimeters between defects rule*” to MPB-killed logs with closely-positioned surface checks results in a collar deduction analogous to the two-centimeter collar rule. Thus, there would be no departure from the grandfathered system.

(iii) Length of Checks Convention

422. As stated above, the Parties are further in dispute as to whether the so-called length of checks convention was a departure from the grandfathered system.

(iv) Lack of Causation

423. The 2007 Scaling Requirements and the extent, if any, to which they depart from the grandfathered grading system, were the subject of extensive testimony and discussion in these proceedings. Respondent acknowledged that the interpretation and application of B.C.’s scaling rules is not an easy exercise.⁴⁶⁴

⁴⁶² R-PHB ¶¶ 139, 140.

⁴⁶³ Transcript, page 697, line 25; page 698, lines 1-3.

⁴⁶⁴ Transcript, page 133, lines 21 *et seq.*; page 176, lines 11 *et seq.*

424. However, even assuming everything in Claimant’s favor with regard to the 2007 Scaling Requirements, the Tribunal finds that Claimant has not established that 2007 Scaling Requirements for checked logs caused any misgrading or had any relevant effect on the increase of the percentage of Grade 4 logs.
425. In this context, the correlation between the undisputed rise of the actual share of Grade 4 in the pine harvest and the date of implementation of the 2007 Scaling Requirements, as reflected in Demonstrative 5 to Claimant’s Closing Statement, becomes critical.
426. First, the Tribunal notes that the 2007 Scaling Requirements took effect on 1 December 2007, i.e., half a year after the percentage of Grade 4 started to rise significantly in May 2007.⁴⁶⁵ Claimant’s explanation that this rise results from misgrading facilitated by the use of local knowledge cannot be accepted because the Tribunal has found that B.C.’s encouragement to use local knowledge was not an action and in any event was not implemented. This leaves the first increase in Grade 4 after May 2007 unlinked to any action by Respondent.
427. Second, as Demonstrative 5 shows, there was indeed a rather steep rise in the percentage of Grade 4 in the pine harvest starting end of 2007. However, the “*action box*” referred to by Claimant in Demonstrative 5 at the commencement of this rise refers to two distinct actions, i.e., kiln warming and the 2007 Scaling Requirements. As stated above, while denying any causal effect for the three other actions, Respondent’s expert witness Dr. Kalt has testified,⁴⁶⁶ and Respondent acknowledged, that kiln warming statistically contributed to the increase of Grade 4.
428. Under these circumstances, it would have been up to Claimant to establish a link between the action of implementing the 2007 Scaling Requirements and the increase in Grade 4 that would not be explained by the undisputed timber deterioration resulting from the MPB epidemic or by the additional increase resulting from grading after kiln warming. As explained above (*see* paragraphs 268 *et seq.*), to establish such link,

⁴⁶⁵ In this context, the Tribunal also notes that Claimant’s expert witness Dr. Neuberger assumes the share of Grade 4 to be proper under the grandfathered grading rules through April 2007 (“*base period*”), and the period of misgrading to include all invoiced months from May 2007 forward (C-2 at ¶ 70; *see also* Reply, ¶ 73). The Tribunal further notes that in its Opening Statement, Claimant alleged that the evidence suggested there was misgrading even before May 2007, but that Claimant clarified that it seeks no remedy for this phase (Transcript, page 20, lines 4-12).

⁴⁶⁶ Transcript, page 1466, lines 16-25; page 1467, lines 1-4.

Claimant may rely on circumstantial evidence. However, in line with the reasoning in the *Methanex* case, the proper use of circumstantial evidence requires the Tribunal to examine each element in its own context and for its own significance. In the case at hand, this means that the Tribunal has to examine whether the coincidence between the increase in Grade 4 as shown in Demonstrative 5 and the action of the implementation of the 2007 Scaling Requirements is sufficient to infer that the increase resulted from misgrading caused by the implementation of the 2007 Scaling Requirements, and not from other factors, such as the deterioration of the timber quality and the effects of kiln warming.

429. In the Tribunal's view, neither the direct nor the circumstantial evidence relied upon by Claimant is sufficient for this purpose. There is no conclusive evidence to establish the requisite link between the action in question and the increase of Grade 4. Claimant failed to show, much less to quantify, any increase in Grade 4 that was specifically caused by the alleged misgrading effects of the 2007 Scaling Requirements. In addition, Claimant failed to explain why the graph for Grade 4 in Demonstrative 5 shows further periods of significant increase and decrease after the implementation of the 2007 Scaling Requirements. In particular, there are troughs in the graph after December 2007 which Claimant does not attempt to explain with specific actions by Respondent, other than the new bucking policy which the Tribunal has not accepted as an action
430. As a consequence, the Tribunal is not convinced that the increasing share of Grade 4 timber in the pine harvest supports an inference on misgrading resulting from the 2007 Scaling Requirements, or any other action relied upon by Claimant in these proceedings. Thus, the Tribunal can leave it open whether the 2007 Scaling Requirements departed from the grandfathered system as it is not convinced that they caused any misgrading.

IV. Remedy

431. The SLA provides that, if the Tribunal finds a breach, it shall make two determinations: first, it determines a reasonable period of time for Respondent to cure its breach; and, second, it determines appropriate compensatory adjustments to the Export Measures in an amount that remedies the breach if Respondent fails to cure the breach within the reasonable period of time.⁴⁶⁷

432. Article XIV(22), the relevant provision of the SLA, provides as follows:

If the tribunal finds that a Party has breached an obligation under the SLA 2006, the tribunal shall:

(a) identify a reasonable period of time for that Party to cure the breach, which shall be the shortest reasonable period of time feasible and, in any event, not longer than 30 days from the date the tribunal issues the award; and

(b) determine appropriate adjustments to the Export Measures to compensate for the breach if that Party fails to cure the breach within the reasonable period of time.⁴⁶⁸

433. The Parties are in dispute as to the appropriate remedy model and ultimate remedy applicable in this case. In particular, diverging remedy models were proposed by Claimant's expert witness, Dr. Neuberger, and by Respondent's expert witness, Dr. Kalt. In addition, Respondent claims that Claimant has not computed any benefit that has resulted from either of the actions alleged to be circumvention, kiln warming or the Scaling Requirements.⁴⁶⁹

434. However, given the Tribunal's decision on liability, i.e., that it cannot find a government action by B.C. and/or Canada which violates the SLA, the Tribunal need not address the dispute on an appropriate remedy model or allocation of benefits resulting from a specific action. Rather, in the absence of a breaching action by Respondent and corresponding liability under the SLA, Claimant is in any event not entitled to any remedy under the SLA in this arbitration.

⁴⁶⁷ SLA, Article XIV(23).

⁴⁶⁸ SLA, Article XIV(22).

⁴⁶⁹ Transcript, page 1683, lines 22 *et seq.*

V. Costs

435. In conformity with the SLA, the Parties have not requested an award of costs. Indeed, under Article XIV(21) of the SLA, "[t]he tribunal may not award costs." Pursuant to this provision, the costs of the arbitration, including the costs of arbitrators, hearing facilities, transcripts, assistants to the Tribunal and costs of the LCIA, shall be covered by a reserve fund created for this purpose from the funds allocated to the binational industry council described in Annex 13 of the SLA. Article XIV(21) also provides that each Party shall bear its own costs, including costs of legal representation, experts, witnesses and travel.
436. This agreement was confirmed at the Case Management Conference of 11 April 2011.⁴⁷⁰ This confirmation by the Parties was required given the possible application to this arbitration of Section 60 of the Arbitration Act 1996 of England and Wales. It provides (as an ostensibly "mandatory" provision under Schedule 1 to the 1996 Act): "*An agreement which has the effect that a party is to pay the whole or part of the costs of the arbitration in any event is only valid if made after the dispute in question has arisen.*" In the circumstances, even if relevant as part of the *lex loci arbitri*, Section 60 of the 1996 Act became inapplicable to Article XIV(21) of the SLA with the Parties' confirmation on 11 April 2011, after their dispute had arisen.
437. The total amount of the costs of the arbitration (other than the legal or other costs incurred by the Parties themselves), have been determined by the LCIA Court, pursuant to Article 28.1 of the applicable (1998) LCIA Rules to be as follows:

Registration fee:	US\$ 2,400.00
LCIA's administrative charges:	US\$ 59,966.90
Tribunal's fees and expenses:	US\$ 916,828.71
Secretary to the Tribunal's fees and expenses:	US\$ 137,610.07
Advisor's fees:	US\$ 12,112.50
Hearings costs:	<u>US\$ 115,625.33</u>
Total costs of arbitration:	US\$ 1,244,543.51

The above costs are subject to VAT of US\$ 106,348.97.

438. Such costs shall be paid from the funds as prescribed in Article XIV(21) of the SLA.

⁴⁷⁰ Transcript of the Case Management Conference, pages 83/84.

G. OPERATIVE PART

439. For the reasons set forth above, the Tribunal renders the following

AWARD

- I. Claimant's claims are dismissed in their entirety.
- II. The costs of these proceedings, which amount to US\$ 1,244,543.51 (subject to VAT of US\$ 106,348.97), shall be paid from the funds allocated to the binational industry council for this purpose pursuant to Article XIV(21) of the SLA.
- III. Each Party shall bear its own costs, including costs of legal representation, experts, witnesses and travel pursuant to Article XIV(21) of the SLA.

Place of Arbitration (seat): London, United Kingdom

Date: 18 July 2012 (confidential version)

26 July 2012 (non-confidential version)

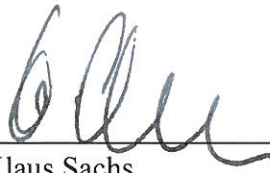
THE ARBITRAL TRIBUNAL



Van Vechten Veeder
Co-Arbitrator



Professor Albert Jan van den Berg
Co-Arbitrator



Klaus Sachs
President