IN THE MATTER OF AN ARBITRATION UNDER CHAPTER ELEVEN OF THE NORTH AMERICAN FREE TRADE AGREEMENT AND THE UNCITRAL ARBITRATION RULES

BETWEEN:

CHEMTURA CORPORATION
(formerly Crompton Corporation)

Claimant/Investor

AND:

GOVERNMENT OF CANADA

Respondent/Party

GOVERNMENT OF CANADA

REJOINDER MEMORIAL

July 10, 2009

Departments of Justice and of Foreign Affairs
& International Trade
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Introduction

I. INTRODUCTION

1. This case concerns the scientific review by Canada's Pest Management Regulatory Agency (PMRA) of the pesticide lindane, leading to the suspension or discontinuation of its last remaining Canadian agricultural registrations by 2001; and the parallel business decision by Canadian canola growers to proactively transition away from lindane, towards replacement products.[1]

2. All of the events at issue in this arbitration took place against the backdrop of a mounting, worldwide consensus that lindane use presents unacceptable risks to human health and the environment. Lindane and its related HCH isomers were progressively banned around the world, as of the 1970s.[2] By the late 1990s, most uses of lindane had been withdrawn in Canada, as in many other OECD countries. Remaining uses were slated for review under international agreements signed at that time.[3] In the ten years that followed, the last remaining agricultural uses of lindane have been phased out in all major OECD jurisdictions. This trend culminated in May 2009, when over 150 nations recommended lindane's inclusion in Schedule A of the Stockholm Convention on Persistent Organic Pollutants.[4] "Schedule A" chemicals are those specifically slated for international elimination.

3. This case has arisen out of Chemtura's effort to challenge the PMRA's scientific finding that lindane is unsafe, and to blame the PMRA for the reasonable decision by Canadian canola growers to proactively phase out their use of lindane. Chemtura's

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[1] In this Rejoinder, Canada will refer to the documentary exhibits of the affidavits in the same format employed in Canada's Counter-Memorial. The terms referred to in this submission are as defined in the updated Glossary, which is attached as Appendix A.

[2] HCH is the short form for the chemical hexachlorocyclohexane. HCH is generated through the photochemical chlorination of benzene. HCH has various molecular arrangements, or "isomers". The principle HCH isomers are alpha-HCH, beta-HCH, and gamma-HCH (or α-HCH, β-HCH, γ-HCH). Gamma-HCH (γ-HCH) is the HCH isomer more commonly known as lindane. *See* Canada's Counter-Memorial, ¶ 25; *see also* First Expert Report of Dr. Costa, ¶ 22.

[3] Canada's Counter-Memorial, ¶ 34, *see* fn. 47. Notably, the Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants (*Aarhus Protocol*), 13 November 1979 (Exhibit JW-10).

[4] COP4, Geneva, 9 May 2009, Stockholm Convention on Persistent Organic Pollutants (POPs) (Exhibit CC-45).

claims find no proper place under Chapter 11 of the NAFTA. Chapter 11 was not intended as a mechanism to compensate investors for regulatory actions taken in the interest of public health and the environment; nor is its purpose to compensate investors for the decision of its clients to use other products.

4. The Claimant's Reply confirms that its claims are based on a systemic misapprehension of Canada's obligations under Chapter 11 of the NAFTA, and as such its claims should be rejected by the Tribunal.

A. The Claimant's case is based on a flawed interpretation of Chapter 11

5. Chemtura invites the Tribunal to apply the wrong standards to find a breach of Chapter 11 of the NAFTA. Its claims fail on this basis alone.

6. In this Rejoinder, Canada will demonstrate that:

- the Claimant asks the Tribunal to ignore the customary minimum standard of treatment of aliens (customary MST) under Article 1105 and instead engage in a domestic administrative law review of the PMRA's scientific evaluation process. This is obviously wrong at law.

- the Claimant attempts to import a lower threshold for breach of Article 1105 by reference to awards interpreting free-standing fair and equitable treatment clauses. These awards, as well as those not applying customary MST, are inapposite to this case.

- the Claimant calls for the Tribunal to apply novel elements of customary MST, which should be rejected by the Tribunal as they have not been proven. In particular, the Tribunal should reject consideration of the Claimant's subjective expectations, arising some thirty years after the Claimant invested in Canada, and attempts to elevate these to international obligations under Article 1105 of NAFTA. This reflects no known standard.

- the Claimant fails to demonstrate that, in the context of the lindane de-registration process, PMRA has treated more favourably an investor from a country with which Canada has a post-NAFTA investment agreement. This is fatal to its Article 1103 claim.

- the Claimant requests that this Tribunal ignore Canada's constant practice of upholding customary MST, and arbitrarily import into Chapter 11 through Article 1103 a standard foreign to Canadian post-NAFTA treaty practice.

- the Claimant asks that the Tribunal find Canada has violated Article 1110, yet it has not been deprived of its investment – Chemtura Canada. The Claimant's argument that a single product-line (*i.e.* its lindane seed treatment business) can be expropriated has no support in international law and should be rejected.

- the Claimant invites this Tribunal to make a finding of damages based on a cascade of implausible assumptions that have no basis in reality. Chemtura asks the Tribunal to assume away, not only real events and facts, but to ignore the entire international and domestic movement against lindane since 1998.

B. The Claimant's case is unfounded in evidence

7. Having invited this Tribunal to engage in a series of legally unjustified analyses, the Reply confirms that Chemtura has entirely failed to prove its case on the facts.

a) The facts in overview

8. In its original Memorial, the Claimant put forward wide-ranging allegations concerning the regulatory treatment of lindane by Canada and the United States, and related dealings with agricultural industry stakeholders over a ten-year period. This obliged Canada to put forward in its Counter-Memorial detailed, broad-ranging, and often highly technical evidence.

9. Chemtura, in its Reply, has provided no cogent response to Canada's case. The facts as proved by Canada are set out in summary as follows.

(i) The PMRA's scientific review of lindane

10. The Claimant seeks to challenge the legitimacy and good faith of Canada's scientific determination in 2001 that remaining agricultural uses of lindane posed unacceptable health risks.[5] The facts relevant to the PMRA's scientific review of lindane, as proved by Canada in its Counter-Memorial and as recalled in this Rejoinder, are as follows:

- Most uses of lindane were withdrawn in Canada between 1970 and 1998, as concerns escalated about its health and environmental impacts.
- In 1998, Canada committed under the Aarhus Protocol to the UNECE Convention on Long-Range Transboundary Air Pollution to review the safety of its remaining lindane registrations.
- Further to this commitment, in March 1999 the PMRA publicly launched a broad-ranging scientific review of lindane.
- By October 2001, PMRA scientists conducting the review confirmed that lindane use posed unacceptable health risks.
- The Claimant challenged the PMRA's conclusion. A three-member scientific Board of Review was established. A full hearing was conducted.
- By August 2005, the Board of Review concluded that "the risk assessment conducted by PMRA, and the conclusions reached, were generally within acceptable scientific parameters."[6]
- Among other recommendations, the Board recommended that the PMRA take account of potential exposure mitigation factors proposed by the Claimant during the Board proceedings.
- In response to the Board's findings and recommendations, the PMRA launched a *de novo* review of lindane with a new scientific team. The

[5] Claimant's Reply, ¶ 231.

[6] Second Affidavit of Cheryl Chaffey, ¶ 65; *see also* Lindane Review Board, *Report of the Lindane Board of Review*, 17 August 2005, ¶ 115 (Exhibit WS-71) (*Board of Review Report*).

Claimant had the opportunity to make extensive submissions during this process.

- By April 2008, the new evaluation had re-confirmed that lindane use poses an unacceptable risk to human health, and characterized lindane as a persistent organic pollutant.

(ii) The industry decision to phase-out its lindane use

11. The Claimant further claims Canada forced it to abandon its registration for lindane use on canola, in connection with a voluntary lindane phase-out by the canola industry in 1999-2001.[7] In this regard, Canada has proved and will recall in this Rejoinder the following key facts:

- The major end-users of lindane in Canada, the Canadian canola industry, decided to transition away from their use of lindane in 1998.
- They did so because they recognized the substantial business risk continued lindane use posed to their industry.
- This risk was reflected in both the immediate threat of closure of the U.S. market (where lindane had no legal registration or residue tolerance for use on canola), and in the realization that the chances of obtaining such a residue tolerance were doubtful at best.
- Lindane use was also attracting increasing negative attention in the press from scientists and from environmental groups.
- In light of mounting negative scientific evidence, canola farmers did not expect lindane registrations to be sustained in Canada. As of 1998, these farmers had no registered Canadian alternative to lindane.
- The Canadian canola industry therefore negotiated with lindane registrants a voluntary phase-out of lindane's registered use on canola.
- Canadian canola farmers asked the PMRA to facilitate this agreement by administering voluntary registration amendments, allowing a phase-out period, and considering proposed replacement products.

[7] Claimant's Reply, ¶ 107 (title).

12. The Claimant asks this Tribunal to find that the PMRA's scientific review of lindane was nothing more than a fraud and a sham, and that the PMRA forced the Claimant to participate in the parallel voluntary industry withdrawal from lindane use.

13. As Claimant in this matter, Chemtura bears the burden of proof of its allegations. It has failed to do so. Before considering its allegations in detail, Canada here provides an overview of the systemic evidentiary failures of the Claimant's Reply.

b) The Claimant ignores or misstates the contemporary record

14. The Claimant's Reply, like its original Memorial, is strikingly unsupported by contemporary documentary evidence. From January to March 2009, in three separate productions, Canada delivered to the Claimant 1285 documents, comprising 8230 pages of materials, in response to the Claimant's 106 separate production requests. Having put Canada to the time and effort of very substantial production, Chemtura has referenced only a handful of the documents produced by Canada. This alone speaks volumes about the lack of foundation of Chemtura's complaints. To the limited extent Chemtura refers to documents, it relies on misstatements or partial quotations, taken out of context.

15. Chemtura notably relies on excerpts from the August 2005 Report of the lindane Board of Review.[8] Yet the Claimant leaves out crucial elements of the Report. It omits the Tribunal's conclusion that the PMRA's Special Review decision was within scientifically acceptable parameters, and had applied appropriate risk assessment methodology.[9] It also omits the Board's finding that Chemtura itself failed to take advantage of opportunities to participate in the Special Review.[10]

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[8] Claimant's Reply, ¶¶ 22-26.

[9] *Board of Review Report*, ¶ 115 (Exhibit WS-71): the Board stated that it "... believes that the risk assessment conducted by PMRA, and the conclusions reached, were generally within acceptable scientific parameters."

[10] *Board of Review Report*, ¶ 109-110 (Exhibit WS-71): "... it is difficult to see how two communications ... can constitute a 'significant effort' by Crompton to defend a product that is being scrutinized by the regulating authority ... Crompton conducts its business in a highly regulated industry. Accordingly, it is not unreasonable to expect it to keep its labels current, and to stay on top of industry concerns."

16. Chemtura also relies on excerpts from a 2003 Report to the House of Commons by the Commissioner of the Environment and Sustainable Development.[11] The Claimant critiques the PMRA's pesticides review practice based on a portion of the Report encouraging the PMRA to use up-to-date evaluation methods; ensure that it has adequate information to complete the evaluations, carefully test its assumptions; and consistently apply its procedure and policies.[12] Yet Chemtura fails to quote the immediately preceding passage, stating:

> The Pest Management Regulatory Agency, a branch of Health Canada, has developed a sound framework for evaluating pesticides, but key elements of the evaluation process need to be strengthened.[13] (emphasis added)

17. A third example of the Claimant's misstatements comes in the Claimant's reference to an email by Wendy Sexsmith, the PMRA's then-Director of Alternative Strategies and Regulatory Affairs. The Claimant cites her reference to the "demise" of lindane, alleging this confirms bias on the part of the PMRA, and indeed "confirms a concerted effort to bring about the 'demise' of lindane by any means".[14] A cursory inspection of this email shows that Ms. Sexsmith was exclusively referring to the industry agreement to voluntary withdraw lindane use on canola.[15] Moreover, Wendy Sexsmith was not one of the scientists involved in the PMRA's re-evaluation of lindane.[16]

18. These are only three of the more striking examples of the Claimant's misuse of the documentary record to create an inaccurate view of the facts.

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[11] Claimant's Reply, ¶¶ 63-66.

[12] Report of the Commissioner of the Environment and Sustainable Development to the House of Commons, Chapter 1: Managing the Safety and Accessibility of Pesticides, 2003 (*2003 Auditor's Report*), ¶ 1.2 (Exhibit CF-26); *see* also Second Affidavit of Dr. Claire Franklin, ¶¶ 36-45.

[13] *2003 Auditor's Report*, ¶ 1.2 (Exhibit CF-26).

[14] Claimant's Reply, ¶ 244.

[15] Email from Wendy Sexsmith to Claire Franklin, Wayne Ormrod et al., 8 January 1999 (Exhibit WS-100); *see* also Second Affidavit of Wendy Sexsmith, ¶¶ 95-96.

[16] Second Affidavit of Wendy Sexsmith, ¶ 94.

c) The Claimant's case is otherwise based on the allegations of its own employees and associates

19. Having failed to prove its case on the contemporary record, the Claimant invites the Tribunal to ignore the extensive evidence put forward by Canada, and rely instead on the bare allegations of its own employees and associates. These witnesses regularly speculate on matters that are outside of the scope of their reasonable knowledge, without reference to any contemporary evidence, and ignoring the evidence to the contrary put in by Canada on the very point addressed.

20. For example, the Claimant invites the Tribunal to find that the worldwide ban on lindane has been motivated simply by "politics" (as opposed to scientific determination that lindane use presents unacceptable risks).[17] The Claimant cites as sole support for this proposition the verbatim allegation of its employee, Mr. Thomson.[18] Mr. Ingulli is cited as sole support for the proposition that the PMRA was going to find against lindane "irrespective of the science".[19]

21. The flimsiness of the Claimant's evidence is all the more striking given the nature of its allegations. Chemtura's Reply is replete with harsh charges against the PMRA of conspiracy, bias and bad faith, and *ad hominem* attacks against particular PMRA employees, including suggestions that regulatory decisions were taken based on personal "career interests", or motivated by personal animus against Chemtura, the basis of which goes unexplained.[20] Such grave and serious allegations should only have been put forward, if at all, based upon clear and compelling evidence addressing the extensive record Canada has put before the Tribunal, confirming the propriety of the PMRA's conduct.

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[17] Claimant's Reply, ¶ 78.

[18] Second Statement of Evidence of Paul Thomson, ¶ 17. The Claimant elsewhere relies on Mr. Thomson's bare allegation as "proof" that the PMRA "fuelled fears" about lindane: *see* Claimant's Reply, ¶ 123; Second Statement of Evidence of Paul Thomson, ¶ 55.

[19] Claimant's Reply, ¶ 281; *see* also Second Statement of Evidence of Alfred Ingulli, ¶ 93. The Claimant also relies on Mr. Ingulli's bare charge as "evidence" that Canada allegedly upholds its statutory framework "only when it suits": Claimant's Reply, ¶ 154; *see also* Second Statement of Evidence of Alfred Ingulli, ¶ 35.

[20] *See e.g.* Claimant's Reply, ¶¶ 33, 36-37, 52-54, 250-251.

22. Instead, the Claimant relies on passing email comments from its own employees and associates, not even presented to testify in this matter:

- to "establish" the PMRA's alleged failure to conduct a proper Special Review of lindane.[21]
- to "confirm" that a senior PMRA employee pursued the withdrawal of lindane for "career reasons".[22]
- to "prove" that the PMRA's review of lindane was biased.[23]

Chemtura's reliance on speculation and conjecture unfounded in any evidence only highlights the lack of any legal or factual substance of its claims.

d) The Claimant has failed to put forward key witnesses

23. The deficiency of the Claimant's evidence is further reflected in the few witnesses it has called in support of its case. In addition to the over 550 contemporary documents Canada has filed in support of its submissions, Canada has put forward as witnesses all key players from the PMRA and from the CCC, as well as experts in toxicology and pesticides re-evaluation, the U.S. Environmental Protection Agency (EPA) process, and damages.[24]

24. By contrast, the Claimant's list of witness is striking by its absences. Bill Hallatt and Rob Dupree were both key Chemtura employees in Canada and directly involved in the facts at issue.[25] Neither Mr. Hallatt nor Mr. Dupree has been presented by the

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[21] Claimant's Reply, ¶ 246; Investor Reply Exhibit 56 (Email from Bob Chyc to Rick Turner and Fred Hnatiw, 5 October 1999).

[22] Claimant's Reply, ¶ 250; Investor Reply Exhibit 58 (Email from Al Gwilliam to Edwin Johnson and others, 22 May 2000).

[23] Claimant's Reply, ¶ 251; Investor Reply Exhibit 59 ((Email from Keith Lockhart to C.P. Yip, Tom Geise and Rob Dupree, 16 January 2001).

[24] Canada's fact and expert witnesses are as listed at pp. 11-12 of its Counter-Memorial: Dr. Claire Franklin, Wendy Sexsmith, Jim Reid, John Worgan, Cheryl Chaffey, Suzanne Chalifour, Tony Zatylny, JoAnne Buth, Dr. Lucio Costa, Dr. Lynn Goldman, and Brent Kaczmarek. All with the exception of Jim Reid have provided second affidavits or reports in support of Canada's Rejoinder. In addition, Canada provides an affidavit from Dr. Peter Chan, Director-General of the Health Evaluation Directorate at the PMRA during the preparation of the lindane re-evaluation note (REN) following the Board of Review proceedings.

[25] Mr. Hallatt and Mr. Dupree's names appear regularly in both the internal and external correspondence relevant to the Voluntary Withdrawal Agreement and to the Special Review of lindane.

Claimant. Nor have any of C.P. Yip, Al Gwilliam, Bob Chyc, Keith Lockhart, Will Cummings, Rick Turner, or Ray Cordona, all of whose names appear in the contemporary correspondence.[26]

25. This same failure is reflected in Chemtura's list of expert witnesses. Chemtura has not even bothered to present a toxicologist to respond to Dr. Costa, Canada's expert toxicologist. It instead unconvincingly dismisses his scientific views as irrelevant, or even improper, otherwise leaving his evidence of the PMRA's good-faith scientific process entirely unopposed.[27]

26. To support its characterizations of the EPA's parallel scientific review of lindane, the Claimant has relied on the evidence of Mr. James Aidala and Mr. Edwin Johnson. Mr. Aidala is not a toxicologist, nor indeed a scientist: he holds a Master's degree in Sociology,[28] and was a junior employee of Dr. Lynn Goldman, Canada's expert witness on EPA matters. For his part, Mr. Johnson has worked for the lindane industry since 1992, and was Chemtura's lobbyist in its failed attempts to convince the US EPA to extend lindane use to canola. Dr. Goldman has systematically refuted both Mr. Johnson's and Mr. Aidala's views.[29]

The Claimant itself relies on email commentary by both Mr. Dupree and Mr. Hallatt in support of its allegations: *See e.g.* Investor Reply Exhibits 35, 47 and 65. Mr. Dupree was the author of the occupational exposure study upon which Chemtura encouraged the PMRA to rely in its Special Review: *see* First Affidavit of Dr. Claire Franklin, ¶ 29; *see also* Letter from Rob Dupree, Uniroyal, to Janet Taylor, PMRA, 6 October 2000 (Exhibit CF-10). Both Mr. Hallatt and Mr. Dupree were Chemtura's representatives at the VWA meeting of November 24, 1998: *see* Letter from Gene Dextrase, President, CCGA, and Bruce Dalgarno, Past President, CCGA, to Dr. Claire Franklin, Executive Director, PMRA, 26 November 1998 (Exhibit WS-17). Mr. Hallatt commented on the CCC's press release confirming that the VWA had been confirmed at that meeting: *see* Second Affidavit of Tony Zatylny, ¶ 46.

[26] *See e.g.* Email from Rick Turner to C.P. Yip et. al., 14 December 2000 (Annex R-325); *see also* Email from C.P. Yip, 18 July 2002 (Annex R-326); Email from Rick Turner to C.P. Yip et. al., 14 December 2000 (Exhibit CC-60); Email from Bill Hallatt to Rick Turner, 25 November 1998 (Exhibit CC-44).

[27] Claimant's Reply, ¶¶ 57-60.

[28] First Statement of Evidence of James Aidala, ¶ 2.

[29] *See generally* First Expert Report of Dr. Goldman; Second Expert Report of Dr. Goldman.

C. Materials submitted by Canada

27. Canada's Rejoinder is accompanied by documentary annexes, a volume of appendices and compilation of relevant legal authorities. In addition, Canada submits eight affidavits:

- **Joanne Buth** was the Vice-President of Crop Protection at the Canola Council of Canada (CCC) from 1999-2006. Her second affidavit responds to various points raised by the Claimant in its Reply, including the health concerns of the canola industry about lindane and the VWA.

- **Cheryl Chaffey** was the Section Head of the PMRA's Health Re-evaluation Section during the review of lindane from 1999-2001. Her second affidavit responds to allegations made by the Claimant with respect to the Special Review process, information sharing between the PMRA and EPA regarding lindane, and the conclusions of the Board of Review.

- **Suzanne Chalifour** is a Senior Evaluation Officer in the Product Sustainability and Coordination Division ("PSCD") of the PMRA. Her second affidavit addresses the PMRA's reasons for conducting the Helix workshare, explains the timeline of the Gaucho CS FL submission and outlines the PMRA's equal treatment of all registrants.

- **Dr. Peter Chan** is currently the Director General of the Health Evaluation Directorate of the PMRA and has acted in a senior capacity in the PMRA's re-evaluation activities since November, 2006. In his affidavit, Dr. Chan addresses the composition of the teams for the PMRA's Special Review and for the subsequent lindane Re-Evaluation Note (REN), and the role of John Worgan in the Special Review and the REN.

- **Dr. Claire Franklin** was the Executive Director of the PMRA from its creation in 1995 until 2003, overseeing all of the Agency's functions and ensuring cross-agency coordination. In her second affidavit, Dr. Franklin discusses various issues raised in Claimant's Reply, including international agreements concerning lindane, the PMRA's notice to the Claimant with respect to occupational exposure, the PMRA/EPA Joint Review Process and the Commissioner of the Environment and Sustainable Development's 2003 Report.

- **Wendy Sexsmith** held three positions at the PMRA during the relevant period: Director of the Alternative Strategies and Regulatory Affairs Division (1998-2000), Chief Registrar (2000-2003) and Acting Executive Director (2003-2005). Her second affidavit addresses various allegations raised by Claimant in its Reply, in particular, with respect to the VWA and

the PMRA's offer of a phase-out to Claimant, and the Board of Review process.

- **John Worgan** is the Director General, Re-evaluation Management Directorate of the PMRA. His second affidavit addresses the Special Review and the PMRA's implementation of the Board of Review's recommendations, the evolution of the PMRA's position on lindane and its ongoing dialogue with Claimant since 2008.

- **Tony Zatylny** was the Vice President of Crop Production and Regulatory Affairs at the Canola Council of Canada (CCC) from 1996-1999. His second affidavit deals with the VWA, lindane's negative impact on the healthy image of canola, the implications of the border closure by the United States to imports of lindane-treated canola products, and various points raised by Claimant's valuation expert LECG.

28. Canada also submits three expert reports:

- **Dr. Lucio Costa** is a professor of Toxicology at the University of Washington in Seattle (WA, United States). In his second expert report, he develops his conclusion that the regulatory science undertaken by the PMRA related to the de-registration of lindane in Canada was legitimate.

- **Dr. Lynn Goldman** is a pediatrician and a professor at the Johns Hopkins University Bloomburg School of Public Health (MD, United States). From 1993 to 1998, Dr. Goldman was the Assistant Administrator at the EPA's Office of Prevention, Pesticides, and Toxic Substances. In her second expert report, Dr. Goldman critiques the various assumptions made by Claimant's witnesses Edwin Johnson and James Aidala regarding the prospects for obtaining either a registration or a tolerance for lindane use on canola in the United States.

- **Brent Kaczmarek** of Navigant Consulting Inc. critiques the supplemental report submitted by Claimant's valuation expert LECG, focusing on the unreasonableness of the assumptions underlying LECG's analysis, as well as pointing out the deficiencies LECG's valuation methodology.

29. Canada further attaches to its Rejoinder Memorial an updated Glossary (Appendix A), an updated Chronology (Appendix B), a chronological list of documents filed by Canada with its Rejoinder Memorial (Appendix C), and lists of all exhibits to affidavits and reports filed by Canada with its Rejoinder Memorial (Appendix D).

II. THE CLAIMANT HAS FAILED TO PROVE ITS CASE

30. In the section that follows, Canada responds to the principal allegations of fact the Claimant puts forward in its Reply. The details of this response are set out for the Tribunal's review in the second affidavits of its witnesses, the responding reports of its experts, and in the contemporary documentary evidence upon which these witnesses and experts rely. Canada also repeats and relies on its Counter-Memorial submissions.

A. Canada's scientific review of lindane was thorough, defensible and in good faith

31. In its Reply, the Claimant challenges the scientific validity and good faith of the PMRA's regulatory decision-making process in various ways. Its challenges are without merit.

1) Canada agreed in 1998 to review lindane

32. The Claimant seeks to impugn the good faith of the PMRA's scientific review of lindane, by suggesting that Canada "supported" continued use during international negotiations in 1997-98, but then quickly changed its mind due to trade, rather than scientific, concerns.[30]

33. It is incorrect to suggest that concerns about lindane only materialized in Canada after 1998. Starting from as early as the 1970s, most uses of lindane had already been discontinued in Canada based on health and environmental concerns. By the late 1990s there was mounting concern regarding those uses that remained.[31]

34. Concerns were clearly focussed on lindane, and not merely on the other (equally or even more toxic) isomers of HCH.[32] A major national study, the Canadian Arctic Contaminants Assessment Report (CACAR), was released in 1997. It confirmed that HCH isomers (including lindane) were present at high levels in the Canadian north and

[30] Claimant's Reply, ¶ 84.

[31] Second Affidavit of Dr. Claire Franklin, ¶ 7; *see also* First Affidavit of Dr. Claire Franklin, ¶¶ 19-21; First Affidavit of Cheryl Chaffey, ¶ 34.

[32] Second Affidavit of Cheryl Chaffey, ¶ 10.

were more prevalent than any other organochlorine still in use.[33] Levels of lindane (which remained in use) were persisting in the Canadian North, whereas that of other HCH isomers (which were already banned) had reduced, suggesting a link between Arctic contamination and atmospheric transport from more southerly agricultural use of lindane as a seed treatment.[34]

35. The Claimant has persistently sought to ignore the health and environmental concerns of lindane.[35] Internal correspondence tells a different story. In 1998, responding to a Chemtura employee who attempted to discount concerns about lindane, Mr. Hallatt, one of Chemtura's main Canadian representatives, corrected him, stating that "lindane is still a POP [Persistent Organic Pollutant]".[36]

36. Concerns about lindane were being put forward not only domestically, but internationally, in such fora as the Aarhus Protocol negotiations of 1997-98.[37] Contrary to the Claimant's allegations,[38] lindane was historically more widely used in Europe than in North America, yet the EU supported a full lindane ban.[39] Indeed, Austria, as the EU rapporteur country, filed its report in 1998 concluding that lindane use led to unacceptable health and environmental risks.[40] The U.K.'s Pesticide Safety Directorate (PSD) had launched a review that would reach a negative conclusion in 1999.[41] In the

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[33] Second Affidavit of Wendy Sexsmith, ¶ 12; *see also* Department of Indian And Northern Affairs Canada, *Canadian Arctic Contaminants Assessment Report* (Ottawa: Government of Canada, 1997), 1997 (Exhibits CC-14 and CC-43).

[34] Second Affidavit of Cheryl Chaffey, ¶ 12.

[35] *See* First Witness Statement of Paul Thomson, ¶ 7; *see also* Second Witness Statement of Paul Thomson, ¶ 8.

[36] Second Affidavit of Cheryl Chaffey, ¶ 15; *see also* Email from Bill Hallatt to Rick Turner, 25 November 1998 (Exhibit CC-44).

[37] Second Affidavit of Dr. Claire Franklin, ¶¶ 7-12.

[38] Claimant's Reply, ¶ 77.

[39] Second Affidavit of Dr. Claire Franklin, ¶¶ 8-9, 16; *see also* International HCH and Pesticides Association, *The Legacy of Lindane HCH and Isomer Production*, 1 January 2006, pp. 17, 19 (Annex R-44).

[40] Canada's Counter-Memorial, ¶ 7, fn 49; EC Directive 91/414/EEC, 15 July 1991, as amended 20 December 2000 (Exhibit CF-7).

[41] *Food and Environment Protection Act*, 1985, Control of Pesticides Regulations 1986 (UK), Evaluation on: The Review of Lindane, Part III, November 1999 (Exhibit CC-17).

same year lindane became the subject of a Re-evaluation Decision (RED) by the U.S., and more than twenty different U.S. registrations were voluntarily withdrawn.[42]

37. Recognizing the mounting international concerns,[43] Canada did not take the position that lindane use was something to be "defended" in the Aarhus Protocol negotiations.[44] Canada instead sought to ensure that its international undertakings were consistent with its domestic legal regime, which required a domestic scientific re-evaluation before Canada could decide to ban any pesticide.[45] Canada legally could, and did, commit to review its remaining domestic lindane registrations.[46] This commitment was fulfilled in the Special Review.[47]

2) The lindane review was a Special Review from the start

38. The Claimant has suggested that Canada's review of lindane as a "Special Review" rather than as a "re-evaluation" was itself a sign of bias.[48] In fact, this decision – which was taken from the start, rather than "changed" at some point – was consistent with PMRA policy.[49] In any event, the distinction is overstated. The principal difference between a "Special Review" and a "re-evaluation" of a registered pesticide is the trigger. Re-evaluation is cyclical. A Special Review, on the other hand, is launched when PMRA has specific information suggesting there is a risk to human health or the environment

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[42] U.S. EPA, *Re-registration Eligibility Decision for Lindane*, 31 July 2002 (Annex R-34); *see also* Canada's Counter-Memorial, ¶ 34, fn 46.

[43] Canada's Counter-Memorial, ¶ 34.

[44] Claimant's Reply, ¶ 84.

[45] Second Affidavit of Dr. Claire Franklin, ¶ 8; Briefing Note on LINDANE for the Negotiation of the UNECE LRTAP POPs Protocol, Geneva, 14-15 December 1997 (Aarhus Briefing Note) (Exhibit CF-17).

[46] Second Affidavit of Cheryl Chaffey, ¶ 11; *see also* Second Affidavit of Dr. Claire Franklin, ¶ 8; *see also* Briefing Note on LINDANE for the Negotiation of the UNECE LRTAP POPs Protocol, Geneva, (Aarhus Briefing Note), 14-15 December 1997 (Exhibit CF-17); Draft Briefing Note on the Inclusion of Lindane in the UNECE LRTAP POPs Protocol, Prepared for the Third Negotiating Session (Exhibit CF-18).

[47] Second Affidavit of Dr. Claire Franklin, ¶ 15; *see also* Suzanne Fortin, PMRA, Memo to Dr. Claire Franklin, Lindane Developments, 13 March 1998 (Exhibit CF-20); *see also* Second Affidavit of Cheryl Chaffey, ¶ 10.

[48] Claimant's Reply, ¶ 233.

[49] PMRA, *Project Sheet on the Special Review of Lindane*, 22 July 1998 (Annex R-15); Second Affidavit of John Worgan, ¶ 19.

from continued use of the pesticide.[50] This was precisely the situation with lindane.[51] Given that it is prompted by specific concerns, a Special Review may focus on a particular risk. A Special Review can also cover all of the areas included in a full re-evaluation, as was the case with lindane.[52] The scientific processes and methodologies undertaken in either process are the same.[53]

39. The Claimant points to the infrequency of Special Reviews up to 1999.[54] The PMRA was only created in 1995.[55] Re-evaluation of old pesticides was a concern the new agency was mandated to address.[56] As of the late 1990s the PMRA launched a general program to review such registrations. The Special Review of lindane was part of that program.[57]

3) The Special Review was broad-ranging

40. The Claimant has also suggested that the Special Review was commenced in haste with little or no thought, citing a February 1999 PMRA email which questioned the potential scope of the Special Review health evaluation.[58] The email in question dates from before the announcement of the Special Review, precisely when the PMRA was considering its appropriate scope.[59]

41. The PMRA's questions reflected an effort to settle the focus of its re-evaluation, given the general uncertainty about the potential effects of lindane use at the time.[60] The Special Review announcement of March 15, 1999 expressly stated that the scope of the

[50] Second Affidavit of John Worgan, ¶ 20; *see also* Second Affidavit of Cheryl Chaffey, ¶ 4; *see also* First Affidavit of Cheryl Chaffey, ¶ 60.

[51] Second Affidavit of John Worgan, ¶ 19.

[52] Second Affidavit of Cheryl Chaffey, ¶ 18-21; *see also* PMRA, Special Review Announcement SRA99-01, *Special Review of Pest Control Products Containing Lindane*, 15 March 1999 (Exhibit CC-21); *see also* First Affidavit of Cheryl Chaffey, ¶ 93.

[53] Second Affidavit of John Worgan, ¶ 19.

[54] Claimant's Reply, ¶ 233.

[55] First Affidavit of Dr. Claire Franklin, ¶ 10.

[56] Second Affidavit of Dr. Claire Franklin, ¶¶ 11-13.

[57] First Affidavit of John Worgan, ¶¶ 29-30.

[58] Claimant's Reply, ¶ 248.

[59] Second Affidavit of Cheryl Chaffey, ¶ 19.

[60] Second Affidavit of Cheryl Chaffey, ¶ 18.

Special Review was potentially "broad", and that "as a better understanding of the potential for adverse effects becomes known, the scope of this review may change".[61] In a meeting shortly thereafter, the PMRA confirmed that its review would indeed include exposure issues.[62] In fact, the Special Review proceeded on all of the issues addressed in a typical re-evaluation: toxicology, environmental impact, dietary and occupational risk, and value.[63]

4) Scientists conducting the Special Review received no particular instructions regarding outcome

42. The Claimant has alleged (on the basis of its own witnesses' allegations) that the Special review was biased and *pro forma* – with the PMRA planning to eliminate lindane, no matter what the science showed.[64] These allegations come in the face of Canada's extensive evidence concerning the good-faith scientific process involved in the Special Review as confirmed by an eminent toxicologist.[65] PMRA scientists received no instructions to reach any specific conclusions, nor were they involved in the industry-led move to voluntarily phase out uses of lindane on canola.[66]

5) The PMRA and EPA collaborated in their review, but applied different standards

43. The Claimant has also questioned the PMRA's collaboration with the EPA in course of the Special Review. It suggests both that the two agencies failed to collaborate in the review, and that PMRA improperly sought to influence EPA's decision.[67]

44. The Claimant is guided by the unreasonable expectation that national regulatory agencies will jettison their respective domestic standards in the context of information

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[61] Second Affidavit of Cheryl Chaffey, ¶ 20; *see also* PMRA, Special Review Announcement SRA99-01, *Special Review of Pest Control Products Containing Lindane*, 15 March 1999 (Exhibit CC-21).

[62] Minutes of meeting between PMRA, Chemtura and CIEL, 11 May 1999 (Exhibit CF-9).

[63] Second Affidavit of Cheryl Chaffey, ¶ 6; *see also* First Affidavit of Cheryl Chaffey, ¶¶ 72-79.

[64] Claimant's Reply, ¶¶ 244, 257.

[65] Second Affidavit of Cheryl Chaffey, ¶ 8; *see also* First Affidavit of Cheryl Chaffey, ¶¶ 58-130; *see also* First Expert Report of Dr. Costa, ¶ 158; Second Expert Report of Dr. Costa, ¶ 23.

[66] Second Affidavit of Cheryl Chaffey, ¶ 9.

[67] Claimant's Reply, ¶¶ 285, 288-289.

sharing. While the PMRA's practice is to use reviews performed by other equivalent agencies to inform its own review, the PMRA does not simply adopt their conclusions wholesale. Instead, the PMRA takes the reviews collected by other agencies and applies to these reviews its own standards of risk.[68] That is what occurred with lindane.

45. Prior to the lindane Special Review, the NAFTA Technical Working Group on pesticides had confirmed Canada's ability to access the EPA reviews, compiled the year earlier. Since the PMRA relied on these recently conducted reviews, Canada did not need to "re-invent the wheel" and complete a separate data call-in.[69] But it applied to that data its own review standards.

46. The PMRA and EPA also agreed to pursue their respective lindane reviews collaboratively and, to this end, engaged in extensive exchanges.[70] This inter-agency collaboration was consistent with PMRA practice and indeed is common among OECD countries.[71] However, each agency continued to apply the safety factors they had developed in determining whether a registration was acceptable. The EPA and PMRA differed on the appropriate safety factor to apply for worker exposure.[72] It is false to suggest that either agency sought to impose its views on the other, whether to skew the outcome of the lindane review, or for any other reason. Rather, these differences of view were discussed in good faith, and each agency stood its ground.[73]

47. Furthermore, it is an exaggeration to suggest that the PMRA and EPA reached entirely different conclusions concerning lindane's occupational risk. Even at the time it released its interim lindane decision in 2002, despite the fact that it applied a lower safety factor for occupational risk, the EPA did not reach a completely "opposite conclusion"

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[68] Second Affidavit of Cheryl Chaffey, ¶ 44; *see also* First Affidavit of Cheryl Chaffey, ¶ 32.

[69] Second Affidavit of Cheryl Chaffey, ¶ 45; *see also* First Affidavit of Cheryl Chaffey, ¶¶ 68-69.

[70] Second Expert Report of Dr. Costa, ¶¶ 8-19.

[71] First Affidavit of Cheryl Chaffey, ¶¶ 63-64.

[72] Second Affidavit of Cheryl Chaffey, ¶¶ 49-50; *see also* Email from Janet Taylor to Lois Rossi and Anne Lindsay, 9 February 2001 (Exhibit CC-54).

[73] Second Affidavit of Cheryl Chaffey, ¶¶ 46-50; *see also* Second Expert Report of Dr. Costa, ¶¶ 14, 19; *see also* Email from Janet Taylor to Lois Rossi and Anne Lindsay, 9 February 2001 (Exhibit CC-54).

from the PMRA: the EPA still had worries about occupational exposure to registered uses of lindane, and imposed significant additional safety precautions on the few remaining U.S. registered uses on this basis.[74] The EPA was also concerned about occupational exposure to lindane from commercial seed treatment of canola, a use that was being petitioned in the U.S. at the time.

6) The PMRA reached a decision based upon occupational exposure risk

48. The Claimant suggests that the PMRA improperly proceeded to ban lindane based on occupational risks, without having first completed assessments on product chemistry, use and usage, toxicology and human health.[75] This is incorrect. The PMRA did complete the assessments necessary to determine occupational risk; among them, the toxicology of lindane (*i.e.* its documented effects on health, notably through laboratory experiments), and the likely exposure to the pesticide.[76]

49. The Claimant also argues that the Special Review was flawed because the PMRA did not complete all aspects of a potential re-evaluation.[77] In accordance with PMRA practice, other aspects of the review, which were ongoing, were discontinued in light of the occupational exposure risk finding.[78] The PMRA adopts this first-past-the-post system to better manage its limited resources.[79] The PMRA does not carry out re-evaluations for their own sake, but rather in order to verify safety. If a chemical is

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[74] Second Affidavit of Cheryl Chaffey, ¶¶ 55-56; *see also* U.S. EPA, *Re-registration Eligibility Decision for Lindane*, 31 July 2002 (Annex R-34); *see also* Email from Will Cummings, 21 February 2002 (Annex R-327); *see also* Email from Will Cummings to Edwin Johnson et al., 22 February 2002 (Annex R-328); *see also* First Expert Report of Dr. Goldman; *see also* Second Expert Report of Dr. Goldman.

[75] Claimant's Reply, ¶ 287.

[76] Second Affidavit of Cheryl Chaffey, ¶ 21.

[77] Claimant's Reply, ¶¶ 286-287.

[78] Contrary to the Claimant's allegations, the PMRA invited Don Waite of Environment Canada to make a presentation on his research on the volatility of lindane. These data were incorporated into the PMRA conclusion that seed treatment led to environmental loading of lindane; *see also* Second Affidavit of Cheryl Chaffey, ¶¶ 32-37; Email from Derek Francois to Victoria Tunstall et al., 10 July 2001 (Exhibit CC-52).

[79] First Affidavit of Cheryl Chaffey, ¶ 127.

deemed to present unacceptable risks under one head of evaluation, the rest of the review becomes academic and is discontinued.[80]

7) Occupational exposure had clearly been a PMRA concern

50. The Claimant suggests that it was surprised that the PMRA was seriously considering occupational exposure risk concerns. Its surprise is disingenuous.

51. Occupational exposure had, by June 1999, formed the basis of the U.K. decision to ban lindane – a process in which the Claimant was involved, and which it would have known the PMRA was following.[81] The Claimant attempts to discount this by reference to an internal PMRA memo of 2000, noting differences of approach between the U.K. and Canadian agencies concerning occupational exposure.[82] This misses the point. The concerns of the U.K. were still generally relevant to the Canadian context. A sophisticated registrant would hardly have expected the PMRA to ignore the findings of a significant sister agency.[83]

52. The Claimant was also aware that the EPA itself had occupational exposure concerns. These concerns were confirmed in 2001, before Canada's own Special Review was finalized.[84] The EPA ultimately identified a concern for the occupational risk of workers who treated canola seed commercially in its 2002 RED[85]. Given the PMRA was known to be working in collaboration with the EPA, the Claimant again cannot reasonably suggest it was "surprised" the PMRA was paying attention to this issue.

53. This is particularly true given that, in a meeting between PMRA Executive Director, Dr. Claire Franklin and Mr. Ingulli of Chemtura on October 4, 2000, Dr.

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[80] Second Affidavit of Cheryl Chaffey, ¶¶ 40-41; First Affidavit of Cheryl Chaffey, ¶¶ 126-129.

[81] *See e.g.* Rob Dupree, R&D Reports, Crop Protection, 25 June 1999 (Annex R-329); *see also* Letter from J.J. Davis to Lindane Approval Holders, 11 March 1998 (Annex R-330).

[82] Claimant's Reply, ¶ 264.

[83] Second Affidavit of Cheryl Chaffey, ¶ 27.

[84] Second Affidavit of Cheryl Chaffey, ¶¶ 28-29; *see also* Email from Stefan Korpalski, 16 April 2001 (Exhibit CC-46); *see also* Email from Will Cummings to Ray Cardona et al., 25 April 2001 (Exhibit CC-47).

[85] U.S. EPA, *Re-registration Eligibility Decision for Lindane*, 31 July 2002 at pp.29-31 (Annex R-34).

Franklin expressly noted that occupational exposure was of concern to the PMRA. Mr. Ingulli's own notes from the meeting baldly state: "PMRA CONCERNS – OCCUPATIONAL EXPOSURE".[86] Chemtura responded by providing its own in-house occupational study, suggesting that it reflected current practice.[87] When in October 2001 the PMRA announced its negative occupational exposure risk finding (relying, among other things, on Chemtura's study), the Claimant complained that the PMRA had relied on exposure data that was out of date.[88]

8) A comment period was provided to all registrants

54. The Claimant also complains that, once the Special Review results were announced in draft, registrants were given only a few weeks to comment. It suggests this timeline obviously precluded any submission of new data in response to the PMRA's occupational exposure concerns.[89] As Canada has pointed out, in the context of a Special Review, there were valid health, logistical, and policy reasons for limiting the comment period.[90]

55. As noted above, the PMRA had expressly raised the issue of occupational exposure with the Claimant a full year before its results were released. Rather than undertaking to generate new data, Chemtura insisted that its existing occupational exposure study was valid and reflected current practice.[91] Chemtura's response in October 2000 makes its subsequent complaint ring hollow. Moreover, the Board of Review found that Chemtura should have proposed additional mitigation measures during

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[86] Alfred Ingulli's meeting notes, 4 October 2000 (Exhibit CF-12).

[87] Second Affidavit of Dr. Claire Franklin, ¶ 18; *see also* First Affidavit of Dr. Claire Franklin, ¶ 29; *see also* Letter from Rob Dupree, Uniroyal Chemical (predecessor-in-title to Chemtura Canada) to Janet Taylor, PMRA, 6 October 2000 (Exhibit CF-10).

[88] *See e.g. Board of Review Report*, ¶ 88 (Exhibit WS-71). The Board of Review itself found that Chemtura "made no attempt to update or replace the study … to better reflect what was considered to be the current use practices": *Board of Review Report*, ¶ 111; *see also* ¶¶ 114, 213.

[89] Claimant's Reply, ¶ 18.

[90] Second Affidavit of John Worgan, ¶ 14; *see also* First Affidavit of John Worgan, ¶¶ 157-172.

[91] First Affidavit of Dr. Claire Franklin, ¶ 29; *see also* Letter from Rob Dupree, Uniroyal Chemical (predecessor-in-title to Chemtura Canada) to Janet Taylor, PMRA, 6 October 2000 (Exhibit CF-10).

the comment period following the release of the occupational risk assessment, in October 2001, but failed to do so.[92]

9) The PMRA offered a phase-out to all registrants

56. The Claimant has misstated the exchange that took place between itself and the PMRA once the Special Review results were announced.[93] The PMRA indeed offered the remaining lindane registrants, including the Claimant, the opportunity to voluntarily withdraw their registrations under Section 16 of the *PCPR*.[94] This process would allow for a phase-out period of current registered uses. All registrants except the Claimant agreed to this.[95] The Claimant's characterization of this as an unfair "ultimatum"[96] is inapposite given PMRA's responsibility as the public regulator. The PMRA was simply doing its job, based on the Special Review findings.[97] The Claimant asserts that it provided the information requested by the PMRA regarding its remaining stocks.[98] Yet it also expressly rejected the results of the Special Review and refused the offer of voluntary withdrawal of its registrations.[99] In the circumstances, the PMRA's only legislative alternative was to suspend Chemtura's remaining registrations.

10) When the Claimant challenged this decision, a Board of Review was appointed

57. To the extent the Claimant had complaints about the Special Review process, it has already enjoyed a full domestic hearing of these complaints before the lindane Board of Review. The Claimant has reiterated its unfounded complaint that it was "forced" to

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[92] *Board of Review Report*, ¶ 118 (Exhibit WS-71).

[93] Claimant's Reply, ¶ 290.

[94] *Pest Control Products Regulations*, C.R.C., c.1253 at s. 16 (Annex R-2) ('*PCPR*').

[95] First Affidavit of Wendy Sexsmith, ¶¶ 102-105; Letter from Roy Lee Carter, Cereals and Oilseed Lead, Zeneca, to Dr. Claire Franklin, Executive Director, PMRA, 29 October 1999 (Exhibit WS-43); Letter from John Kelly, Rhône-Poulenc Canada Inc., to Wendy Sexsmith, PMRA, 1 November 1999 (Exhibit WS-44); Letter from Don Wilkinson, Manager, Regulatory Affairs, IPCO, to Roy Lidstone, PMRA, 1 November 1999 (Exhibit WS-45).

[96] Claimant's Reply, ¶ 290.

[97] Second Affidavit of Wendy Sexsmith, ¶¶ 102-104.

[98] Claimant's Reply, ¶ 290.

[99] Letter from Rob Dupree, Manager, Product Development & Regulatory Affairs, Crompton Canada (predecessor-in-title to Chemtura Canada) to Janet Taylor, Manager, Registered Product Evaluation, PMRA, 28 January 2002 (Exhibit WS-62).

go before the Federal Court to ensure that the Board was appointed, or to ensure the fairness of the process.[100] The record speaks to the contrary.

58. The Minister was in the process of appointing the Board of Review when the Claimant launched one of its nine separate Federal Court applications relating to lindane, challenging the appointment process.[101]

59. Once the application was launched, the Minister reasonably suspended the appointment process pending its resolution. When the matter was heard, Chemtura admitted that the process as originally contemplated was fair, rendering its action moot. The process went ahead as the Minister had originally planned.[102]

11) The Board of Review found the PMRA's decision within acceptable scientific parameters

60. The Claimant relies heavily on the Board of Review to found its complaints that Canada violated Article 1105 (1).[103] Ironically, the very fact that the Claimant requested and received domestic due process, through the Board of Review process, is fatal to its claims of allegedly "unfair" treatment.

61. Moreover, the Claimant has mischaracterized the results of the Board of Review, simply ignoring Canada's evidence on this issue.[104] The Board found that "the risk assessment conducted by PMRA, and the conclusions reached, were generally within acceptable scientific parameters".[105] It noted that "the risk assessment process…was adequate…and consistent with existing regulations as they applied to lindane

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[100] Claimant's Reply, ¶ 204 (title).

[101] Second Affidavit of Wendy Sexsmith, ¶ 106; *see also* First Affidavit of Wendy Sexsmith, ¶¶ 160-169; *see also Crompton v. Canada, Report of Counsel for the Respondent to the Court Pursuant to the Order of the Honourable Justice Frederick E. Gibson,* Court File No. T-899-02, 15 May 2003 (Annex R-101).

[102] Second Affidavit of Wendy Sexsmith, ¶ 106; *see also Crompton v. Canada, Order of the Honourable Mr. Justice Frederick E. Gibson,* Docket: T-899-02, 6 May 2003 (Annex R-100).

[103] Claimant's Reply, ¶ 364.

[104] Second Affidavit of Cheryl Chaffey, ¶ 64.

[105] Second Affidavit of Cheryl Chaffey, ¶ 65; *see also Board of Review Report,* ¶ 115 (Exhibit CC-42).

registrations of the time."[106] While it is true that the PMRA and the Board of Review differed on scientific issues – notably, on the appropriate safety standard to apply at various points of the review – these were legitimate differences of view within a reasonable scientific range.[107] This is not the same as the Board concluding that the PMRA's decision was deeply flawed.[108] As a public regulator with a primary directive to protect public health and safety, the PMRA was justified in applying a precautionary safety standard in the exercise of its highly specialised scientific mandate.[109]

62. The Board of Review's decision has been reviewed by Dr. Costa, who endorses the view that the Board's comments reflect a reasonable scientific difference of view with the PMRA on some aspects of the review, while confirming the legitimacy of its result.[110] The Claimant has put forward no evidence to counter Dr. Costa's independent assessment.

12) The PMRA nonetheless engaged in a review *de novo* of lindane

63. As Canada acknowledges, the Board among other things recommended that the PMRA take account of various mitigation measures proposed by the Claimant for the first time during the Board of Review. These included the withdrawal of particular formulations, and additional safety precautions.[111] The PMRA implemented the Board's recommendations, engaging in a *de novo* review of lindane, the Re-Evaluation Note: Lindane Risk Assessment (REN).[112] Given all of the controversy the Claimant generated concerning it original lindane review, the PMRA decided to pursue all aspects of the risk assessment to their conclusion.

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[106] *Board of Review Report*, ¶ 128 (Exhibit WS-71).

[107] Second Expert Report of Dr. Costa, ¶ 36.

[108] Second Affidavit of Cheryl Chaffey, ¶ 69; *see also* Second Expert Report of Dr. Costa, ¶ 24.

[109] First Affidavit of John Worgan, ¶¶ 137, 226; *see also* First Affidavit of Cheryl Chaffey, ¶ 115; *see also* Second Expert Report of Dr. Costa, ¶ 118.

[110] Second Expert Report of Dr. Costa, ¶ 36.

[111] Canada's Counter-Memorial, ¶ 296; *Board of Review Report*, ¶ 198 (Exhibit WS-71).

[112] Second Affidavit of Cheryl Chaffey, ¶ 69; *see also* Second Affidavit of John Worgan, ¶ 30.

64. The Claimant wrongly alleges that the REN process was "tainted", suggesting that the same PMRA staff worked on the REN that worked on the Special Review.[113] These allegations simply confirm the Claimant's discomfort in the face of a negative scientific REN result, based upon sound science. In fact, with one minor exception, the PMRA put in place a team of new scientists for the REN.[114] The new team was a deliberate step to minimize any influence of the Special Review evaluators on the REN scientists.[115]

65. The Claimant has specifically complained of the continuing involvement of John Worgan.[116] Mr. Worgan was not involved in any of the science conducted during the REN, nor did he direct the findings of REN scientists.[117] While he signed the letters related to the REN in his managerial function, the content of the REN was substantively determined by scientific evaluators.[118]

66. In the REN, the PMRA considered all of the Board's technical suggestions, as well as the additional information submitted to it by the Claimant both during the Board of Review proceedings and during the REN itself.[119] The PMRA also engaged in an extensive policy review to consider its general approach to safety factors.[120]

67. Having taken all of these steps, the new team of PMRA scientists reaffirmed that lindane is unacceptable for registration.[121] These scientists concluded that lindane is

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[113] Claimant's Reply, ¶ 36.

[114] Second Affidavit of John Worgan, ¶¶ 31, 85; *see also* Affidavit of Peter Chan, ¶¶ 5-6. The exception is Derek François from the Environmental Assessment Division. However, because his environmental assessment was not complete at the time of the release of the Special Review, it played no part in the PMRA's decision to de-register lindane at that time.

[115] Second Affidavit of John Worgan, ¶ 85; *see also* Affidavit of Peter Chan, ¶ 6.

[116] Claimant's Reply, ¶ 37-38.

[117] Second Affidavit of John Worgan, ¶¶ 89-91; *see also* Affidavit of Peter Chan, ¶¶ 9-10.

[118] Second Affidavit of John Worgan, ¶ 94.

[119] First Affidavit of John Worgan, ¶ 185. The PMRA among other things considered mitigation proposals but none of the options presented, including the Jones and Korpalski study, brought exposure to acceptable levels: *see* Second Affidavit of John Worgan, ¶¶ 10, 45-47.

[120] First Affidavit of John Worgan, ¶¶ 224-226; *see also* PMRA, Regulatory Proposal PRO2007-01, *Use of Uncertainty and Safety Factors in the Human Health Risk Assessment,* 25 July 2007 (Exhibit JW-36).

[121] Second Affidavit of John Worgan, ¶ 31; PMRA, *Re-Evaluation Note REV2008, Draft Lindane Risk Assessment*, 14 April 2008, pp. 1-5 (Exhibit JW-92) ('*PMRA Re-evaluation Note REV2008*').

potentially carcinogenic and that available information raises concerns about its neurotoxic and endocrine modulation effects.[122] The PMRA's team also confirmed that lindane seed treatment is a major source of widespread environmental pollution, including long-range dispersal by air and water currents to the Arctic.[123]

13) The PMRA has responded fully and completely to Chemtura's critiques of the Re-evaluation Note (REN)

68. The Claimant has also argued that the PMRA did not genuinely consult with Chemtura on the REN.[124] This is untrue. The PMRA engaged in ongoing and substantive dialogue with Chemtura during the course of the REN, which has continued through the release of the draft REN in April 2008 until the present day.[125] The REN is about to be released for public consultation, at which time Chemtura will have another opportunity to comment. Over the course of these exchanges, Chemtura progressively retrenched the bases of its objections to the PMRA's negative REN conclusions about lindane.[126]

B. End-users of lindane chose to transition to other products

69. The Claimant also seeks a remedy in relation to the decision by the principal end-users of lindane, as of 1998, to transition away from their use of this pesticide.

1) The Voluntary Withdrawal Agreement (VWA) was an

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[122] *PMRA Re-evaluation Note REV2008*, pp. 16-17 (Exhibit JW-92).

[123] *PMRA Re-evaluation Note REV2008*, pp. 28-31 (Exhibit JW-92).

[124] Claimant's Reply, ¶ 29.

[125] *See e.g.* First Affidavit of John Worgan, ¶¶ 189, 201-202, 207-208, 211, 213-214; *See also* Second Affidavit of John Worgan, ¶¶ 37-83; Letter from John Worgan, PMRA, to Patti Turner, Chemtura Canada Co., 29 April 2008 (Exhibit JW- 104); Letter from Patti Turner, Chemtura, to Lynn Ovenden, PMRA, 27 June 2008 (Exhibit JW- 105); Letter from John Worgan, PMRA, to Patti Turner, Chemtura Canada Co., 6 August 2008 (Exhibit JW- 106); Letter from John Worgan, PMRA, to Patti Turner, Chemtura Canada Co., 30 September 2008 (Exhibit JW- 107); Letter from Patti Turner, Chemtura, to John Worgan, PMRA, 16 September 2008 (Exhibit JW-108); Letter from Paul Thomson, Chemtura, to John Worgan, PMRA, 3 November 2008 (Exhibit JW-109); Letter from John Worgan, PMRA, to Paul Thomson, Chemtura Corporation, 26 November 2008 (Exhibit JW- 110); Letter from Paul Thomson, Chemtura, to John Worgan, PMRA, 11 December 2008 (Exhibit JW- 111); Letter from John Worgan, PMRA, to Paul Thomson, Chemtura Corporation, 30 January 2009 (Exhibit JW- 112); Letter from Paul Thomson, Chemtura, to John Worgan, PMRA, 13 February 2009 (Exhibit JW-113); Letter from John Worgan, PMRA, to Paul Thomson, Chemtura Corporation, 6 March 2009 (Exhibit JW- 114); Letter from Paul Thomson, Chemtura, to John Worgan, PMRA, 14 April 2009 (Exhibit JW-115); Letter from John Worgan, PMRA, to Paul Thomson, Chemtura Corporation, 7 May 2009 (Exhibit JW- 116).

[126] Second Expert Report of Dr. Costa, ¶ 21.

industry-driven decision

70. The Claimant has reiterated its incorrect charge that the PMRA was the "driver" of the VWA.[127] The representative of the Canadian Canola Council (CCC) at the time, Mr. Tony Zatylny, has confirmed in detail how the CCC was the driving force behind this industry arrangement.[128] His evidence has been extensively confirmed in the contemporary record, including in documents from the Claimant itself recognizing the leading role played by the canola industry.[129] As a Chemtura employee noted in October 1998, reporting internally on the proposed voluntary phase-out: "[n]ote that this is not a regulatory action by PMRA, but rather the expressed wish of a grower group."[130]

2) The VWA reflected clear and pressing concerns

71. The Claimant incorrectly suggests that the canola industry was unconcerned with health or environment issues surrounding lindane.[131] To the contrary, Mr. Zatylny has confirmed that the canola industry sought to transition away from its use of lindane based on a range of clear and pressing concerns, all of which were ultimately related to mounting concerns about the risks of lindane use.[132] The CCC did not wish to use an unsafe product, and was concerned with the potentially negative impact of lindane use on canola's "healthy" image.[133] The ability of lindane to damage canola's image was a real, rather than an abstract concern: in 1998, the World Wildlife Fund (WWF) advised the CCC that if the canola industry did not phase out its use of lindane, the WWF would

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[127] Claimant's Reply, ¶¶ 125-131.

[128] Second Affidavit of Tony Zatylny, ¶ 11; *see also* First Affidavit of Tony Zatylny, ¶¶ 32-34.

[129] *See e.g.* Email from Rick Turner to C.P. Yip et al., 22 September 1998 (Exhibit WS-84); Memo from Rick Turner to Gil Austin et al., 21 December 1998 (Exhibit TZ-45); Rob Dupree, R&D reports, Crop Protection, 25 June 1999 (Annex R-329); Second Affidavit of Wendy Sexsmith, ¶ 31.

[130] Email from Bill Hallatt, Gustafson Partnership (a business unit of Chemtura Canada) to Rick Turner, Rob Dupree and other Chemtura group employees, 19 October 1998 (Exhibit WS-85).

[131] Claimant's Reply, ¶ 135.

[132] Second Affidavit of Tony Zatylny, ¶ 30; *see also* Letter from Alfred Ingulli, Executive Vice President, Crompton, to Dr. Claire Franklin, Executive Director, PMRA, 28 July 2000 (Exhibit CC-14); Department of Indian and Northern Affairs Canada, *Canadian Arctic Contaminants Assessment Report* (Ottawa: Government of Canada), 1997 (Exhibit CC-43).

[133] Second Affidavit of JoAnne Buth, ¶ 9; *see also* First Affidavit of Tony Zatylny, ¶ 22.

initiate a negative advertising campaign.[134] The canola industry was also concerned that in light of increasingly negative reports about lindane, existing Canadian registrations for its use would sooner or later be rescinded, leaving the industry without an alternative.[135]

72. The absence of U.S. registrations or a tolerance for lindane use on canola was also a source of concern. The introduction in 1996 of the U.S. Federal *Food Quality Protection Act* had tightened controls on the presence of unregistered pesticides on agricultural products in the Unites States. As of 1997, the Canadian canola industry was already working on harmonization initiatives to address this issue at a systemic level.[136]

73. The action of one of Chemtura's own U.S. subsidiaries, Gustafson Inc. (Gustafson) in September 1997, brought this situation to a head. Gustafson tipped off the US EPA to the presence of lindane on Canadian canola imports (Gustafson produced a competing pesticide product for sale in the U.S.).[137] This prompted the US EPA to declare in March 1998 that the U.S. border would be closed as of June 1998 to imports of lindane-treated canola seeds from Canada.[138]

74. The Claimant has argued that the agreement of voluntary withdrawal was "unnecessary" because the issue was "limited" to treated seed.[139] The Claimant's own documents acknowledge that the Canadian canola industry had a strong and realistic concern that this ban would quickly spread to all canola products grown from lindane-

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[134] Second Affidavit of Tony Zatylny, ¶ 24; *see also* Email from Bill Hallatt, Gustafson Partnership (a business unit of Chemtura Canada) to Rick Turner, Rob Dupree and other Chemtura group employees, 19 October 1998 (Exhibit TZ-34). As Mr. Zatylny notes at ¶ 24 of his Second Affidavit, "once the VWA was in effect, the WWF backed off on this issue as it related to canola, by not emphasizing canola in its report on the toxic effects of lindane". *See* World Wildlife Fund Canada, *Lindane: A Review of Toxicity and Environmental Fate*, November 1999 (Exhibit TZ-35).

[135] Second Affidavit of Joanne Buth, ¶ 12.

[136] First Affidavit of Tony Zatylny, ¶¶ 9-13.

[137] Second Affidavit of Tony Zatylny, ¶ 33; *See also* First Affidavit of Tony Zatylny, ¶ 17; Letter from E.L. Moore, Executive Vice President, Gustafson, Inc., to Daniel M. Barolo, Director, Office of Pesticide Programs, U.S. EPA, 17 September 1997 (Exhibit TZ-2); Email from Rob Dupree to C.P. Yip, 28 June 1999 (Annex R-331).

[138] Letter from Lynn Goldman and Steve Herman, EPA to Roger Johnson, Commissioner of Agriculture, North Dakota Department of Agriculture, 12 March 1998 (Exhibit TZ-8).

[139] Claimant's Reply, ¶¶ 111-117.

treated seed.[140] Technically, the U.S. pesticide regulatory framework requires the establishment of maximum residue levels (MRLs)[141] for pesticides used in or on food or animal feed.[142] Because there was never a tolerance for lindane on canola in the U.S., residues of lindane in the food supply at any level would have constituted adulterated food.[143]

75. The EPA, in response to Gustafson's letter[144] informing the regulator of the unlawful importation of lindane-treated canola seeds, advised Gustafson that:

> EPA requires tolerances to be established on the amount of pesticide residues that can lawfully remain in or on each treated food commodity. Canola seed treated with registered pesticides cannot be legally imported or otherwise distributed in the US unless a tolerance or an exemption from a tolerance has been established to cover residues of the pesticides that could remain in *the canola grown from the seeds*.[145]

76. The Claimant's own documents confirm its own concern that there could be lindane residues in canola oil[146] and its knowledge of lindane residues in canola meal.[147]

3) The Canadian canola industry was the driver of the VWA

77. The record is clear that lindane was an urgent issue for the CCC. The CCC acted throughout 1998 to address the lindane crisis.[148] The CCC first considered seeking

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[140] Minutes from Canola Council Meeting, 24 November 1998 (Exhibit TZ-41); Email from Rick Turner to C. P. Yip, 6 October 1999 (Annex R-332).

[141] The EPA is responsible for setting limits on the amount of pesticides that may remain in or on foods marketed in the U.S.. The EPA establishes tolerances for each pesticide specified in parts per million (ppm), based on the potential risks to human health posed by the pesticide.

[142] First Expert Report of Dr. Goldman, ¶ 13.

[143] *See* Second Expert Report of Dr. Goldman.

[144] *See* Second Expert Report of Dr. Goldman.

[145] Letter from Anne Lindsay, Director, Field and External Affairs Division, EPA to E.L. Moore, Executive Vice President, Gustafson, 12 January 1998 (Exhibit TZ-19).

[146] *See* Email from C.P. Yip to M. Puttock (Chemtura – U.K.) et al., 20 October, 1998 (Second Expert Report of Dr. Goldman, Tab 2), in which Mr. Yip states: "According to Rob and confirmed by Rick, residue is present in canola oil, but extremely low, 6-7 ppb."

[147] *See* Email from Ed Johnson to Will Cummings et al., 26 July 2002 (Second Expert Report of Dr. Goldman, Tab 3), wherein Mr. Johnson states: "OPP says they cannot issue any new tolerances without making a FQPA safety finding. This could put canola in limbo despite the fact that there are no detectable residues in canola oil. However, there are I believe residues in meal which is used as an animal feed."

harmonization of lindane registrations, through a U.S. registration.[149] But in the summer of 1998, the US EPA informally advised the CCC that, given the current questions about lindane and ongoing re-evaluation of existing U.S. lindane registrations, an American expansion of registered lindane usage to include canola was unlikely.[150] The CCC therefore turned its focus to organizing a voluntary withdrawal.

78. Voluntary cessation of use of a pesticide is not an unusual industry step. The CCC has a history of taking proactive steps of this kind.[151] Voluntary withdrawal is a reasonable business decision when use of a particular product gives rise to concerns about its economic impact on the agricultural industry it is intended to support.[152]

79. By adopting a plan of voluntary withdrawal, the canola industry hoped to avoid the immediate threat of U.S. border closure; address the concerns of environmental groups about their use of lindane; and allow for an orderly transition to new products.[153]

4) The Canadian canola industry sought the support of all four Canadian lindane registrants

80. The Claimant wrongly argues that the VWA did not need the support of all lindane registrants.[154] This contention is both unrealistic and contrary to the Claimant's own position at the time.[155] If all registrants did not support the plan, it would have been impossible for the canola industry to represent, either to the U.S. or to environmental groups, that lindane was being phased out for use on canola.[156] In any event, all of the

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[148] Second Affidavit of Tony Zatylny, ¶¶ 25-32.

[149] Second Affidavit of Tony Zatylny, ¶ 12.

[150] Second Affidavit of Tony Zatylny, ¶ 13; *see also* email from Tim Moyes to Bill Hairston et al., 18 November 1998 (Annex R-333).

[151] Benomyl is another registration withdrawn at the CCC's request: *see* Second Affidavit of Tony Zatylny, ¶ 38.

[152] Second Affidavit of Wendy Sexsmith, ¶¶ 25-26.

[153] Second Affidavit of Tony Zatylny, ¶ 15.

[154] Claimant's Reply, ¶¶ 144-146.

[155] Email from Bill Hallatt to Rick Turner et al., 19 October 1998 (Exhibit TZ-34); *see also* Email from Bill Hallatt to Rick Turner, Kim Turner, et al., 20 October 1998 (Exhibit TZ-38).

[156] Second Affidavit of Tony Zatylny, ¶ 41; *see also* First Affidavit of Wendy Sexsmith, ¶ 22.

registrants (including Chemtura) were willing to agree to the phase-out only on condition that the other registrants also commit to the withdrawal.[157]

81. As acknowledged by the Claimant's own internal contemporary documents, the CCC approached the four registrants of lindane products in Canada over the summer and autumn of 1998, asking them to support the plan of voluntary withdrawal.[158]

5) PMRA agreed to facilitated the VWA at industry's request

82. The Claimant, in seeking to characterize the PMRA as the "driver" of the VWA sidesteps the fact that the CCC came to the PMRA, and not vice versa. The CCC turned to the PMRA because only the PMRA could 1) process registrants' requests for a modification to their lindane product labels; 2) permit a phase-out of use over a reasonable period, notwithstanding the modified labels; and 3) consider and potentially register replacement products. The PMRA was also best placed to seek assurances from its American counterpart that, in light of the VWA, a border closure would be avoided.[159]

83. The Claimant points to communications between the PMRA and the CCC as evidence of some form of "improper" collaboration.[160] This allegation is without any merit. The PMRA's dealings with the CCC reflected the normal interaction between the PMRA and a major industry stakeholder requesting support for an industry-led voluntary arrangement. Lindane was of a enormous concern to the canola industry. It is not surprising that the CCC did everything it could to effectively manage the risk lindane represented. This included communicating their plans to the PMRA, as the CCC's plan

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[157] Second Affidavit of Tony Zatylny, ¶ 42; *see also* Email from Rob Dupree to C.P. Yip and Tom Geise, 20 October 1998 (Exhibit TZ-40). "Condition" 1 of Mr. Ingulli's 27 October 1999 letter to Dr. Franklin states: "All other registrants of products used to treat canola that contain lindane also agree to voluntarily withdraw canola from their product labels by the end of 1999." *See* Letter from Alfred Ingulli, Executive Vice President, Uniroyal Chemical (predecessor-in-title of Chemtura Corp.) to Dr. Claire Franklin, Executive Director, PMRA, 27 October 1999 (Exhibit WS-40). (emphasis added)

[158] Registrants would do so by agreeing to voluntarily remove the "canola" use from their lindane product label by the end of 1999, subject to a phase-out period. By doing so, registrants would address the immediate threats faced by the canola industry and help assure the industry's long-term viability, to the registrants' own benefit. *See* Email form Bill Hallatt to C.P. Yip et al., 22 September 1998 (Exhibit WS-84); Email communication from Bill Hallatt, Gustafson Partnership (a business unit of Chemtura Canada) to Rick Turner, Rob Dupree and other Chemtura group employees, 19 October 1998 (Exhibit WS-85).

[159] Second Affidavit of Tony Zatylny, ¶ 19.

[160] Claimant's Reply, ¶¶ 132-133.

concerned voluntary amendments to existing pesticide registrations, an issue squarely within the PMRA's mandate.[161] The CCC and CCGA also acted as an intermediary between the growers and the PMRA regarding the management of the related phase-out period for lindane, and the potential registration of replacement products by the PMRA.[162] The PMRA communicated with the EPA concerning the VWA. But it did so at the CCC's express request. This does not make the PMRA the "driver" of this industry arrangement.[163] Without the CCC's efforts, there would have been no VWA.[164]

6) The PMRA acted entirely within its mandate

84. The Claimant's contention that the PMRA acted outside of its regulatory authority is without merit.[165] Everything that the PMRA did in connection with the VWA (processing label amendment requests, permitting a phase-out of lindane for canola, and registering replacement products) was statutorily within its mandate.[166]

85. Contrary to the Claimant's contention, the PMRA did not delegate its power to the CCC improperly, or at all. It is always open to end-users and registrants to decide they no longer wish to use a product, and open to the registrants to request amendment to their registered labels to remove specific uses. This is what happened in the case of lindane.[167]

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[161] Second Affidavit of JoAnne Buth, ¶ 29. Section 13 of the *PCPR* governs applicant requests to amend a certificate of registration: *see PCPR*, s. 13 (Annex R-2).

[162] Second Affidavit of JoAnne Buth, ¶ 29.

[163] Second Affidavit of Wendy Sexsmith, ¶ 33; *see also* Email from Wendy Sexsmith to Wayne Ormrod, 9 April 1998 (Exhibit WS-12).

[164] Second Affidavit of Tony Zatylny, ¶¶ 11, 20-21; First Affidavit of Wendy Sexsmith, ¶ 39; Second Affidavit of Wendy Sexsmith, ¶¶ 35-38.

[165] Claimant's Reply, ¶ 157.

[166] Second Affidavit of Wendy Sexsmith, ¶ 29: Label amendments are processed by PMRA pursuant to s. 13 of the *PCPR*. *See PCPR*, s. 13 (Annex R-2).

[167] Second Affidavit of Wendy Sexsmith, ¶¶ 25-26.

7) All stakeholders expressed their agreement

86. The Claimant's suggestion that it did not voluntarily agree to the VWA is unsupported by the facts.[168]

87. As the CCC representative Tony Zatylny has confirmed, he spent the summer and autumn of 1998 discussing the proposed VWA with the four lindane registrants and other stakeholders.[169] These discussions led to a general meeting on November 24, 1998, at which the VWA was to be confirmed.[170] Chemtura was represented at the meeting by two of its Canadian employees, Rob Dupree and Bill Hallatt.[171] At the meeting all parties aired their concerns. By the end of the meeting consensus was reached in favour of the voluntary withdrawal.[172] After the meeting, Mr. Hallatt commented on the CCC's proposed press release, again with no suggestion that Chemtura was opposed to the agreement.[173] Neither of these Chemtura employees have been called as witnesses in this arbitration.

88. Chemtura's internal documents confirm the Claimant's subsequent strategy of continuing to appear to support the voluntary agreement, while seeking to extract preferential conditions from the PMRA, failing which it threatened to scupper the deal:

> Gentlemen, please find attached a copy of a letter provided to PMRA regarding voluntary withdrawal of Lindane. This letter is not to be shared with the industry. We have requested several regulatory concessions and do not wish to share this with our competitors. The position we are talking [sic] publicly is, "We

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[168] *See e.g.* Claimant's Reply, ¶¶ 132-133.

[169] Second Affidavit of Tony Zatylny, ¶¶ 16, 43; *see also* Letter from Eugene Dextrase, President, CCGA to Dr. Claire Franklin, Executive Director, PMRA, 19 October 1998 (Exhibit TZ-10).

[170] Fax from Tony Zatylny, VP Crop Production, CCC to multiple recipients, 4 November 1998 (Exhibit WS-83).

[171] CCGA, List of Meeting Participants, 24 November 1998 (Annex R-334)

[172] Second Affidavit of Tony Zatylny, ¶ 43; *see also* Second Affidavit of Wendy Sexsmith, ¶ 43; *see also* Letter from Gene Dextrase, President, CCGA and Bruce Dalgarno, Past President, CCGA, to Dr. Claire Franklin, Executive Director, PMRA, 26 November 1998 (Exhibit TZ-13); Minutes from Canola Council Meeting, 24 November 1998 (Exhibit TZ-41).

[173] Second Affidavit of Tony Zatylny, ¶ 46; Fax from Bill Hallatt to Rob Dupree, 26 November 1998 (Annex R-363).

> have agreed to the voluntary withdrawal of Lindane by January 31, 1999, at the request of the Canola growers."[174] (emphasis added)

89. Yet ultimately, the Claimant accepted the VWA and took its related benefits, voluntarily submitting a request to remove canola from its lindane product labels by December 31, 1999.[175] The benefits to Chemtura included a three-year phase-out of lindane, as opposed to a potential immediate cessation of lindane use by canola farmers concerned by the threat of U.S. border action. They also included registration by November 1999 – a full year before any of Chemtura's competitors – of the versions of Chemtura's replacement product, Gaucho, that the Claimant had submitted to the PMRA for approval in 1998.[176] The Claimant's internal documents confirm that these were the "replacement products" it hoped at the time to have registered.[177]

8) The PMRA treated all registrants equally

90. In its Reply, the Claimant has suggested that the PMRA should have ensured "special treatment" for Chemtura in connection with the VWA, because the registrants "were not all similarly situated," since Chemtura had the largest market share in the lindane business.[178] It further suggests that the PMRA's principal responsibility is to registrants.[179] Neither contention is correct.

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[174] Memorandum from Rick Turner to Gil Austin et al., 21 December 1998 (Exhibit TZ-45).

[175] Application for New or Amended Registration for Claimant's Cloak Product, submitted by Rob Dupree, Uniroyal Chemical (predecessor-in-title of Chemtura Canada) to PMRA, 1 November 1999 (Exhibit WS-46); Application for New or Amended Registration for Claimant's Vitavax RS Flowable Product, submitted by Rob Dupree, Uniroyal Chemical (predecessor-in-title of Chemtura Canada), to PMRA, 1 November 1999 (Exhibit WS-46A); Application for New or Amended Registration for Claimant's Vitavax RS Flowable (undyed) Product, submitted by Rob Dupree, Uniroyal Chemical (predecessor-in-title of Chemtura Canada), to PMRA, 1 November 1999 (Exhibit WS-46B); Application of Rob Dupree of Uniroyal Chemical (predecessor-in-title of Chemtura Canada) to PMRA requesting minor label change for Vitavax Rs Powder, 1 November 1999 (Exhibit WS 49).

[176] First Affidavit of Suzanne Chalifour, ¶ 29; (Exhibit SC-16); *see also* Letter from Sean Muir, PMRA, to Rob Dupree, Gustafson Partnership (business unit of Chemtura Canada), 25 November 1999 (Exhibit SC-17). Gaucho 480 FL and 75 ST were both registered pursuant to an expedited review.

[177] Rob Dupree, R&D Reports – Crop Protection, 23 July 1999 (Annex R-335); *see also* Email string between Rob Dupree, Alfred Ingulli, and C.P. Yip, 28 June-14 July 1999, (Annex R-336).

[178] Claimant's Reply, ¶¶ 101-106.

[179] Claimant's Reply, ¶ 132.

91. The PMRA's principal responsibility is to the Canadian public as a whole, to ensure that health and the environment are protected.[180] In addition, under s. 20 of the PCPR, the PMRA has to register products based on merit and value.[181] The concept of "value" relates to the public and to Canadian end-uses, rather than to the registrants.[182] The PMRA, in exercising its mandate, must otherwise balance the needs of all stakeholders. It cannot be guided in the exercise of its regulatory mandate by the imperative of maintaining a private party's market share.[183]

9) The Claimant sought to extract concessions

92. In connection with the VWA, the PMRA sought to treat all four registrants equally.[184] The Claimant has placed great emphasis on alleged "conditions" it imposed in connection with its participation in the VWA. However, when Chemtura sought to extract additional concessions from the PMRA, the agency initially responded by recalling the terms of the voluntary arrangement as it understood them.[185] Chemtura's demands put the PMRA in an awkward situation. The agency wanted to assist Canadian industry by facilitating the withdrawal, yet it could not agree to do so on the basis of granting Chemtura a "special deal".

93. Chemtura's actions were particularly inappropriate given the nature of the concessions it sought of the PMRA. In exchange for its continued support of the VWA,

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[180] Second Affidavit of Wendy Sexsmith, ¶ 52.

[181] *PCPR*, s. 20 (Annex R-2). Section 20 states: "The Minister may, on such terms and conditions, if any, as he may specify, cancel or suspend the registration of a control product when, based on current information available to him, the safety of the control product or its merit or value for its intended purposes is no longer acceptable to him".

[182] Second Affidavit of Wendy Sexsmith, ¶ 52; *see also PCPR*, s.18 (Annex R-2); *see also* PMRA, *Overview Document* (Annex R-29): "The goal of the PMRA is to protect human health and the environment while supporting the competitiveness of agriculture, forestry, other resource sectors and manufacturing."

[183] Second Affidavit of Wendy Sexsmith, ¶ 50.

[184] Second Affidavit of Wendy Sexsmith, ¶ 50; *see also* First Affidavit of Wendy Sexsmith, ¶¶ 28, 99, 102.

[185] First Affidavit of Wendy Sexsmith, ¶¶ 56-60; *see also* Second Affidavit of Wendy Sexsmith, ¶ 36; *see also* Letter from Bill Hallatt, Product Development Manager, Gustafson Partnership (business unit of Chemtura Canada) to Wendy Sexsmith, PMRA, 11 January 1999 (Exhibit WS-20); *see also* Letter from Alfred Ingulli, Executive Vice President, Uniroyal Chemical (predecessor-in-title of Chemtura Canada) and Bill Hallatt, Product Development Manager, Gustafson Partnership (business unit of Chemtura Canada), to Dr. Claire Franklin, Executive Director, PMRA, 17 December 1998 (Exhibit WS-19).

Chemtura was demanding a guarantee that the PMRA would register its replacement products, and do so by particular dates.[186] In essence, Chemtura was asking the PMRA to guarantee registration of its lindane replacement products in the absence of any review determining whether that product was safe. The PMRA could not agree to this in any circumstances.[187]

94. By the spring of 1999, Chemtura appeared to have backed down.[188] Chemtura participated in a meeting of VWA stakeholders in June 1999, saying nothing of its intention to renege on the agreement.[189] Yet in October 1999, on the eve of implementation of the agreement for voluntary withdrawal, Chemtura again attempted to extract special concessions from the PMRA in exchange for its continuing approval of the arrangement. The PMRA, at this point, turned to the CCC, whose agreement this was. The CCC sought to convince Chemtura not to put the entire industry in jeopardy by abandoning the deal.[190] The PMRA, for its part, encouraged the Claimant not to renege on the agreement, but it did not threaten any "reprisals", as the Claimant improbably alleges.[191]

95. In order to clarify the steps it was willing to take in connection with the agreement of voluntary withdrawal, the PMRA organized a teleconference involving all registrants on October 22, 1999. The main clarification in that call concerned the potential for reinstatement of lindane labels for use on canola if the Canadian and

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[186] Letter from Alfred Ingulli, Executive Vice President, Uniroyal Chemical (predecessor-in-title of Chemtura Canada) and Bill Hallatt, Product Development Manager, Gustafson Partnership (business unit of Chemtura Canada) to Dr. Claire Franklin, Executive Director, PMRA, 17 December 1998 (Exhibit WS-19).

[187] Letter from Dr. Claire Franklin, Executive Director, PMRA, to Alfred Ingulli, Executive Vice President, Uniroyal Chemical, 25 March 1999 (Exhibit WS-28).

[188] First Affidavit of Wendy Sexsmith, ¶¶ 59-60.

[189] First Affidavit of Wendy Sexsmith, ¶ 83; *see also* Minutes of meeting organized by CCC/CCGA to monitor implementation of the VWA and progress on lindane replacements, 24 June 1999 (Exhibit WS-29).

[190] Letter from Bruce Dalgarno, Chairman, CCC, to Mr. Alfred Ingulli, Executive Vice President, Uniroyal Chemical (predecessor-in-title of Chemtura Canada), 14 October 1999 (Exhibit WS-31).

[191] Second Affidavit of Wendy Sexsmith, ¶ 41; *see also* Letter from Dr. Claire Franklin, Executive Director, PMRA to Alfred Ingulli, Executive Vice President, Uniroyal Chemical (predecessor-in-title of Chemtura Canada), 21 October 1999 (Exhibit WS-38).

American re-evaluations were ultimately positive.[192] As the PMRA confirmed, after the lindane labels had been altered through the voluntary arrangement, the agency could restore them on a fast-track basis if the conditions leading to the voluntary withdrawal changed – notably, if both Canada and the United States determined that lindane was safe for use on canola.[193] This additional clarification did not change the agreement reached on November 24, 1998.[194]

96. The terms of the VWA were recalled in a CCC memo on October 29, 1999. They included:

- removal of canola use from all lindane labels by December 31, 1999;
- continued work towards the registration of replacement products by the PMRA and EPA;
- information-sharing between the PMRA and EPA for the purposes of re-evaluation;
- re-instatement of canola uses upon request if Canada finds lindane is safe and the U.S. issues a tolerance.[195]

Chemtura did not suggest it disagreed. Rather, on November 1, 1999, together with the other lindane registrants, Chemtura's Rob Dupree submitted to the PMRA the Claimant's requests under Section 13 of the *PCPR*,[196] for the amendment of Chemtura's lindane product labels, removing lindane claims by December 31, 1999.[197]

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[192] Minutes of conference call, 22 October 1999 (Exhibit WS-87).

[193] Second Affidavit of Wendy Sexsmith, ¶ 60.

[194] Second Affidavit of Wendy Sexsmith, ¶ 62; Letter from Gene Dextrase, President, CCGA and Bruce Dalgarno, Past President, CCGA, to Dr. Claire Franklin, Executive Director, PMRA, 26 November 1998 (Exhibit JB-9).

[195] Memorandum from JoAnne Buth, CCC to lindane product registrants, 29 October 1999 (Exhibit WS-42).

[196] *PCPR*, s. 13 (Annex R-2).

[197] Application of Rob Dupree of Uniroyal Chemical (predecessor-in-title of Chemtura Canada) to PMRA requesting minor label change for Cloak, 1 November 1999 (Exhibit WS-46); Application of Rob Dupree of Uniroyal Chemical (predecessor-in-title of Chemtura Canada) to PMRA requesting minor label change for Vitavax RS Flowable, 1 November 1999 (Exhibit WS-46A); and Application of Rob Dupree of Uniroyal Chemical (predecessor-in-title of Chemtura Canada) to PMRA requesting minor label change for Vitavax Rs Flowable (undyed), 1 November 1999 (Exhibit WS-46B).

10) The PMRA reviewed replacement products

97. The Claimant again alleges that the PMRA violated the "conditions" it had imposed for the review of replacement products, in connection with the VWA.[198] A review of the relevant facts confirms that this allegation fails.

98. The PMRA could not guarantee the registration of a replacement by a certain date, or at all, in advance of a review. Accordingly, the PMRA made no commitments of this kind: the letter of October 27, 1999 setting out the Claimant's alleged "conditions" does not even refer to the review of replacements.[199] However, the PMRA did seek to accommodate registrants and growers within the scope of its mandate. The PMRA therefore agreed to consider on a priority basis the first three complete applications it received for lindane replacement products.[200] As it repeatedly stressed, the outcome of such reviews could not be pre-determined.[201]

99. As of November 1998, Syngenta had submitted Helix, a product based on the active ingredient thiamethoxam.[202] In 1998, the Claimant had submitted two different versions of its replacement product Gaucho, based on the active ingredient imidacloprid. And another registrant, Zeneca, had proposed a product called Premiere Z based on the active ingredient cyhalothrin-lamba.[203]

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[198] Claimant's Reply, ¶¶ 383-384.

[199] Letter from Alfred Ingulli, Executive Vice President, Uniroyal Chemical (predecessor-in-title of Chemtura Canada) to Dr. Claire Franklin, Executive Director, PMRA, 27 October 1999 (Exhibit WS-40).

[200] Second Affidavit of Wendy Sexsmith, ¶ 88; *see also* Letter from Dr. Claire Franklin, Executive Director, PMRA to Tony Zatylny, Vice-President Crop Protection, CCC, 23 February 1999 (Exhibit WS-26); First Affidavit of Wendy Sexsmith ¶ 66.

[201] Letter from Dr. Claire Franklin, Executive Director, PMRA, to Alfred Ingulli, Executive Vice President, Uniroyal Chemical (predecessor-in-title of Chemtura Canada), 25 March 1999 (Exhibit WS-28).

[202] First Affidavit of Suzanne Chalifour, ¶¶ 24, 52, 56; *see also* Letter from Wendy Sexsmith, PMRA, to Adam Vaughan, Gustafson, 23 May 2002 (Exhibit SC-52); *see also* Letter from Judy Shaw, Novartis, to Wendy Sexsmith, PMRA, 17 February 2000 (Exhibit SC-56).

[203] First Affidavit of Suzanne Chalifour, ¶ 24; First Affidavit of Wendy Sexsmith, ¶ 67; Email from Wendy Sexsmith to Claire Franklin, Wayne Ormrod, and others, 8 January 1999 (Exhibit WS-100).

100. The PMRA proceed to review these first three submissions.[204] By November 1999, the PMRA had reviewed and approved for registration both submitted versions of the Claimant's Gaucho product.[205] The PMRA registered Syngenta's Helix only a year later, in November 2000.[206] Zeneca's application was ultimately unsuccessful.[207]

101. The Claimant argues that Helix unfairly received special treatment, because Helix was the subject of a "Joint Review" between Canada and the United States. The Claimant goes so far as to suggest that the PMRA "banned" lindane in order to ensure that the Helix Joint Review would succeed.[208] Its allegations are without any merit. The fact that Chemtura's two submitted Gaucho products were registered a full year before Syngenta's alone dismisses the notion of any "special treatment", or of PMRA having granted Helix "first mover" advantage.[209]

102. Helix's submission for a Joint Review in any event was not a sign of "preferential treatment" compared to Gaucho. As Canada has confirmed, Gaucho was ineligible for a regulatory collaboration between the EPA and the PMRA. The active ingredient it contained, imidacloprid, had already been the subject of a regulatory collaboration between the EPA and PMRA a few years earlier.[210] Furthermore, Helix was intrinsically a good candidate for Canada – U.S. workshare because it was a replacement product for

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[204] Second Affidavit of Wendy Sexsmith, ¶ 91; Minutes of meeting organized by CCC/CCGA to monitor implementation of the VWA and progress on lindane replacements, 24 June 1999 (Exhibit WS-29).

[205] Second Affidavit of Wendy Sexsmith, ¶ 91; PMRA Public Registry, entry for Gaucho 480 FL (Exhibit SC-16); Letter from Sean Muir, PMRA, to Rob Dupree, Gustafson Partnership (business unit of Chemtura Canada), 25 November 1999 (exhibit SC-17).

[206] First Affidavit of Suzanne Chalifour, ¶ 50; PMRA Public Registry Record for Helix (Exhibit SC-43); PMRA Public Registry record for Helix XTra (Exhibit SC-44); 41 Regulatory Note REG 2001-03, Thiamethoxam, Helix, Helix XTra, 9 February 2001 (Exhibit SC-45).

[207] First Affidavit of Suzanne Chalifour, ¶ 24.

[208] Claimant's Reply, ¶ 174.

[209] PMRA Public Registry, entry for Gaucho 480 FL (Exhibit SC-16); PMRA Public Registry, entry for Gaucho 480 FL (Exhibit SC-16); Letter from Sean Muir, PMRA, to Rob Dupree, Gustafson Partnership (business unit of Chemtura Canada) (25 November 1999 (Exhibit SC-17).

[210] Second Affidavit of Dr. Claire Franklin, ¶ 34; *see also* Second Affidavit of Suzanne Chalifour, ¶ 13; First Affidavit of Suzanne Chalifour, ¶ 46; Regulatory Note R97-01, *Admire*, 15 August 1997 (Exhibit SC-61).

older pesticides to which pests were developing resistance.[211] Growers were also asking for more lindane replacements and, given the ongoing review of lindane - with an uncertain outcome - it was reasonable for the PMRA to seek to facilitate their request by proposing Helix for a Joint Review.[212] Moreover, a Joint Review could proceed *whether or not* lindane registrations were active.[213]

103. Helix was, in any event, subjected to severe scrutiny by the PMRA. Despite pressure from growers to register replacement products for lindane, the PMRA delayed its registration decision on Helix by over a year, requiring Syngenta to submit an entirely new occupational exposure study, to satisfy concerns arising out of the risk assessment of the original Helix submission.[214] The PMRA has no legal obligation to register alternatives when it is removing an old product from the market.[215]

104. Chemtura further claims that Helix was expedited, even though its data package was not "complete".[216] The Claimant's complaint displays surprising ignorance of the registration process: as any major registrant knows, the "completeness" of an application is determined by the submission of all required elements in a registration package, not by ultimate acceptance of the pesticide, based on these elements.[217] Chemtura itself acknowledged in 1999 that "the agency is meeting their commitment to register alternative products which have sufficient information to support the registration".[218]

105. The Helix package was "complete" in that it contained all of the elements required for a review.

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[211] Second Affidavit of Suzanne Chalifour, ¶ 9; First Affidavit of Suzanne Chalifour, ¶ 44; *see also* Second Affidavit of Dr. Claire Franklin, ¶ 34.

[212] Second Affidavit of Suzanne Chalifour, ¶ 10; First Affidavit of Suzanne Chalifour, ¶ 47.

[213] Second Affidavit of Dr. Claire Franklin, ¶ 26.

[214] First Affidavit of Suzanne Chalifour, ¶ 49; *See also* PMRA Regulatory Note Reg2000-01, *Delay on Helix Registration Decision*, 16 February 2000 (SC-42).

[215] Second Affidavit of Dr. Claire Franklin, ¶ 26.

[216] Claimant's Reply, ¶¶ 191-192.

[217] Second Affidavit of Suzanne Chalifour, ¶ 22.

[218] Gustafson Board Meeting Minutes – Lindane Update, 13 October 1999 (Annex R-337).

106. By contrast, in March 2000 the Claimant's submission for its "all-in-one" Gaucho was not "complete": Chemtura had failed to submit all supporting information. It failed to do so until six months after the initial application was submitted, despite prompt notice of deficiencies by the PMRA.[219]

107. The Claimant also complains that Helix was allowed to "tailgate".[220] "Tailgating" refers to the practice of adding new uses or formulations to an ongoing submission.[221] The PMRA generally avoids this practice, to promote the efficiency of its reviews. Yet in cases where it would be more efficient, the PMRA is not rigidly bound by the policy.[222] Indeed, the Claimant was also allowed to "tailgate".[223]

108. Finally, the Claimant complains that the registration of "Green Helix" was another example of Helix's special treatment. This practice, concerning the allowed colouration of a seed treatment product, was allowed for the legitimate reason of differentiating between two different Helix products. The PMRA revoked the allowance after the Claimant and the Canadian Grain Commission expressed concern about the

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[219] Second Affidavit of Suzanne Chalifour, ¶ 22; Letter from Sean Muir, PMRA, to Adam Vaughan, Gustafson, 27 July 2000 (Exhibit SC-29); Letter from Adam Vaughan, Gustafson Partnership (business unit of Chemtura Canada), to Sean Muir, PMRA, 7 September 2000 (Exhibit SC-30); Internal Memorandum re: Gaucho CS FL Formula Modification from John Kibbee, Gustafson Partnership Formulation Group, to Adam Vaughan, Gustafson Partnership (business unit of Chemtura Canada), 24 August 2000 (Exhibit SC-31); Letter from Adam Vaughan, Gustafson Partnership (business unit of Chemtura Canada), to Sean Muir, PMRA, 26 October 2000 (Exhibit SC-34); Letter from Adam Vaughan, Gustafson, to Suzanne Chalifour, PMRA, 23 November 2000 (Exhibit SC-47); Letter from Adam Vaughan, Gustafson, 24 April 2001 (Exhibit SC-89).

[220] Claimant's Reply, ¶¶ 193-195.

[221] Second Affidavit of Suzanne Chalifour, ¶ 24; First Affidavit of Suzanne Chalifour, ¶¶ 61, 69; Presentation by PMRA, Update on TAILGATING meeting held on November 24, 2000, 4 December 2000 (Exhibit SC-58).

[222] Second Affidavit of Suzanne Chalifour, ¶¶ 24-25; First Affidavit of Suzanne Chalifour, ¶¶ 70-71.

[223] First Affidavit of Suzanne Chalifour, ¶¶ 69-72; Second Affidavit of Suzanne Chalifour, ¶ 24: In the Gaucho 480 FL application, the Claimant was allowed to rely on the data package submitted in support of Gaucho 75 ST, and the Claimant was allowed to add an optional tank-mix with Gaucho 480 FL to the Gaucho CS FL label. *See also* Letter from Judy Shaw, Manager, Government & Public Affairs, Novartis, to Wendy Sexsmith, PMRA, 17 February 2000 (Exhibit SC-57); Letter from Adam Vaughan, Gustafson, to Wendy Sexsmith, PMRA, 21 February 2001 (Exhibit SC-49); Letter from Bill Hallatt, Gustafson Partnership, to Dr. Claire Franklin, PMRA, 29 April 1999 (Exhibit SC-53).

possibility that the green-dyed seed may be similar to the naturally-occurring colour of some strains of canola.[224]

109. The Claimant otherwise complains that the PMRA did not grant its late-submitted "all in one" insecticide/herbicide Gaucho formulation, Gaucho CS FL, an expedited review.[225] But PMRA did not make an open-ended commitment to review lindane replacement products on a "fast-track" basis whenever they might be submitted.[226] Nor would it have been reasonable to assume this on the part of the public regulator required to balance the interests of multiple stakeholders.[227]

110. The Claimant's allegation is grounded in the unreasonable expectation that the PMRA as a public regulator should be guided by the imperative of protecting Chemtura's market share.[228] The Claimant suggests that the PMRA should have "fast-tracked" not just its first two submitted products (Gaucho 75 ST and Gaucho 480 FL), but also this late-submitted version (Gaucho CS FL), because that was the first "all-in-one" (insecticide/pesticide) version it had submitted. The Claimant admits that it was late in submitting this version, but complains that the versions of Gaucho the PMRA registered in October and November 1999 were not commercially viable. The PMRA cannot be responsible for the commercial fate of registered products.[229]

111. Indeed, the record contains evidence that the Claimant's Gaucho failed to succeed because of issues that are squarely the Claimant's responsibility. The Claimant's own documents confirm its realization that Gaucho failed to gain significant market share because it was an inferior product to Helix, and because Syngenta had invested

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[224] Second Affidavit of Suzanne Chalifour, ¶¶ 29-31; Ross Pettigrew, Note to File – Helix Seed Treatment Colouration, (Pettigrew Colouration Notes), 18 March 2002 (Exhibit SC-79).

[225] Claimant's Reply, ¶ 172.

[226] Second Affidavit of Wendy Sexsmith, ¶ 88.

[227] Second Affidavit of Wendy Sexsmith, ¶ 86.

[228] Claimant's Reply, ¶¶ 102-106.

[229] Second Affidavit of Suzanne Chalifour, ¶¶ 19-20.

significantly in marketing Helix.[230] These failings have been confirmed by the canola industry itself.[231]

112. The Claimant also generally complains about the length of time taken overall, for the review of its Gaucho CS FL ('all-in-one') product.[232] The PMRA's standard timeline for that class of review does not factor in potential delays caused by the applicant – for example, failure to provide a complete submission, deficiencies in data, and failure to respond promptly to requests from the PMRA. An analysis of Chemtura's submission reveals that such issues led to five months of delay in the review of the Gaucho CS FL submission.[233] Once the PMRA had all of the required information, it took under 20 months for this product to be registered, well within the PMRA's typical timelines.

11) The phase-out proceeded as planned

113. The Claimant repeats its allegation that the PMRA breached a "condition" of its participation in the VWA, by imposing July 1, 2001 as the final date of use of lindane products on canola.[234] As Canada has demonstrated, the deadline of July 1, 2001 was included in the VWA from the start; was well-understood by all relevant stakeholders; and was applied consistently. The Claimant's allegations to the contrary have no credibility in light of the contemporary record.[235] Internal documents from the Claimant itself confirm that they understood July 1, 2001 was the date for the last use of all product, including treated seed. As Chemtura group employee C.P. Yip noted in an

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[230] Second Navigant Report, ¶ 86; Canada Business Plan for Gustafson Partnership, 27 June 2002 (Exhibit NCI-10).

[231] Second Affidavit of JoAnne Buth, ¶¶ 22-23.

[232] *See e.g.* Claimant's Reply, ¶ 183.

[233] Second Affidavit of Suzanne Chalifour, ¶ 16; *see also* Second Affidavit of Suzanne Chalifour, Appendix A.

[234] Claimant's Reply, ¶¶ 159-160.

[235] *See e.g.* Letter from Gene Dextrase, President, CCGA and Bruce Dalgarno, Past President, CCGA, to Dr. Claire Franklin, Executive Director, PMRA, 26 November 1998 (Exhibit JB-9); Letter from Claire Franklin, Executive Director, PMRA, to Gene Dextrase, President, CCGA, and Bruce Dalgarno, Past President, CCGA, 9 February 1999 (Exhibit WS-25); Minutes of meeting organized by CCC/CCGA to monitor implementation of the VWA and progress on lindane replacements, 24 June 1999 (Exhibit WS-29); Memorandum from JoAnne Buth, CCC to Rob Dupree, Sesh Iyengar, Garry Van Den Bussche & Don Wilkinson, 29 October 1999 (Exhibit JB-20); First Affidavit of Wendy Sexsmith, ¶¶ 122-127; Second Affidavit of Wendy Sexsmith, ¶ 70.

internal email of July 1999 to Alfred Ingulli, Rob Dupree, Bill Hallatt, Rick Turner and others: "the gist of it from [Chemtura employee Rob] Dupree is that ALL stocks in ALL channels, including treated seed must be used up by July 1, 2001."[236] (emphasis added).

114. The PMRA acted within its regulatory enforcement discretion in allowing the phase-out through to July 1, 2001.[237] Furthermore, at no time did the PMRA threaten to impose "fines" in connection with the agreed deadline.[238] Indeed, the PMRA had no compliance plan at all with regard to the agreement of voluntary withdrawal, until the 2001 season. It then undertook a monitoring program, focused on determining how much treated seed and lindane product would be left over.[239] Lindane consumption in 2001 was reduced not because of the threat of any fines, but because total canola acreage had significantly reduced in that year, due to a worldwide drop in prices, and a drought.[240]

115. The extension of the use period through 2002 was a reasonable decision taken after extensive consultation with industry.[241] The decision was communicated to the growers in time to make use of the remaining treated seed in the 2002 season.[242]

12) The Special Review went forward as originally planned

116. The Claimant also wrongly suggests that the PMRA violated a commitment to finish the Special Review by late 2000.[243] Late 2000 was a target date, as the PMRA confirmed in contemporary documents.[244]

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[236] Email string between Alfred Ingulli, Bill Hallatt, Rob Dupree, C.P. Yip, Rick Turner and other Chemtura group employees, 5-8 February 1999 (Exhibit WS-92).

[237] Second Affidavit of Wendy Sexsmith, ¶ 72; *see also* First Affidavit of Wendy Sexsmith, ¶¶ 26, 119. This is based upon the Minister's common law discretion regarding enforcement measures.

[238] Second Affidavit of JoAnne Buth, ¶¶ 17-18.

[239] Second Affidavit of Wendy Sexsmith, ¶ 73; *see also* Affidavit of Jim Reid, ¶¶ 27-30.

[240] First Affidavit of JoAnne Buth, ¶ 70; *see also* Second Affidavit of JoAnne Buth, ¶ 20; Email from Keith Lockhart to David Bowman and Rob Dupree, 29 August 2000 (Annex R-339)

[241] Second Affidavit of JoAnne Buth, ¶¶ 14-16.

[242] Second Affidavit of Wendy Sexsmith, ¶¶ 74-76.

[243] Claimant's Reply, ¶¶ 16-17.

[244] First Affidavit of Wendy Sexsmith, ¶ 133; Second Affidavit of Wendy Sexsmith, ¶ 64; Letter from Dr. Claire Franklin, Executive Director, PMRA, to Alfred Ingulli, Executive Vice President, Uniroyal

117. The slight delay was due to issues beyond the PMRA's control: notably, the timing of the EPA review.[245] Chemtura itself wanted the PMRA to coordinate its review with the EPA.[246] Indeed, Chemtura's contemporary internal documents confirm that it too understood the delay flowed from the PMRA's collaboration with the EPA.[247] One email from the CCC to a Chemtura employee notes: "Wendy Sexsmith has informed me that the review of lindane has been pushed back and the report/decision will not be made until September 2001. I suspect that delay may be due to the EPA's workload."[248]

118. Moreover, as Canada has noted, the slight delay to the PMRA's review was of no consequence to the Claimant. Chemtura wrongly assumes that if the results had been released earlier, the PMRA would have reached a different decision. Since the science was the same, the PMRA would have obtained the same result.

119. The Claimant's attitude towards the Special Review in any event demonstrates the unreasonableness of its expectations vis-à-vis the public regulator. The Special Review was not accomplished simply to fill a condition of the VWA. It was launched in March 1999, before the alleged "condition" to which the Claimant refers, due to the rising concerns about lindane in fulfillment of Canada's review commitment under the Aarhus Protocol.[249]

120. The Claimant's various attacks on the good faith scientific review undertaken by the PRMA in the Special Review are of no more merit. A basic problem is Chemtura's

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Chemical (predecessor-in-title of Chemtura Canada), 25 March 1999 (Exhibit WS-28); *Lindane Special Review Announcement* (Exhibit WS-32).

[245] Second Affidavit of Wendy Sexsmith, ¶ 64; Letter from Wendy Sexsmith, Chief Registrar, PMRA to Rob Dupree, Manager, Regulatory Affairs & Registrations, Crompton Canada (predecessor-in-title to Chemtura Canada), 29 May 2001 (Exhibit WS-53).

[246] Second Affidavit of Wendy Sexsmith, ¶ 65; First Affidavit of Wendy Sexsmith, ¶ 87; Letter from Dr. Claire Franklin, Executive Director, PMRA to Alfred Ingulli, Executive Vice President, Uniroyal Chemical (predecessor-in-title of Chemtura Canada), 8 October 1999 (Exhibit WS-33).

[247] Email from Rick Turner to C.P. Yip et al., 14 December 2000 (Exhibit WS-89).

[248] Email from JoAnne Buth, Canola Council of Canada, to Rob Dupree, Uniroyal Canada, 18 January 2001 (Exhibit WS-90); see also E-mail for Rick Turner to C.P. Yip et. al., 14 December 2000 (Exhibit CC-60).

[249] Second Affidavit of Wendy Sexsmith, ¶ 67; PMRA Project Sheet, *Special Review of Lindane*, July 1998 (Exhibit CF-21).

expectation that no review of lindane could be "proper", unless it arrived at a result favourable to continued registration of the product.[250] Given the enormous negative scrutiny lindane was attracting as of the late 1990s, this was a highly unreasonable expectation. The PMRA certainly made no commitments regarding the outcome of the Special Review.[251]

121. The Claimant's various attempts to impugn the good faith of the Special Review amount to grasping at straws. Chemtura, in the first place, points to a PMRA email referencing the "demise of lindane".[252] The partially-quoted email in fact refers exclusively to the VWA.[253] Chemtura otherwise alleges that specific individuals in the PMRA sought to eliminate lindane for "career reasons".[254] It does so on the basis of a speculative comment by the employee of a lindane manufacturer, who has not even been called in testimony in this matter.[255] The Claimant then quotes out of context a statement by a canola industry representative in an email from Rob Dupree.[256] Mr. Dupree has not even been called as witness in this arbitration. The quoted CCC representative, JoAnne Buth, has been presented as a witness by Canada, and she has specifically denied the Claimant's characterization of her remarks.[257] The Claimant also points to a reference to "replacement products" in the Special Review interim report.[258] Rather than an indication of a forgone conclusion for lindane, the reference simply acknowledged the reality that lindane end-users were requesting alternatives, and indeed the lindane registrants themselves were pushing for lindane replacements to be registered.[259] The subsequent withdrawal of remaining lindane registrations around the world – including in

[250] Claimant's Reply, ¶ 151.

[251] Second Affidavit of Wendy Sexsmith, ¶ 81.

[252] Email from Wendy Sexsmith to Claire Franklin, Wayne Ormrod, and others, 8 January 1999 (Exhibit WS-100).

[253] Second Affidavit of Wendy Sexsmith, ¶¶ 95-96.

[254] Claimant's Reply, ¶ 250.

[255] Second Affidavit of Wendy Sexsmith, ¶ 98; Investor Reply Exhibit 58.

[256] Claimant's Reply, ¶ 279.

[257] Second Affidavit of JoAnne Buth, ¶¶ 26-28.

[258] Claimant's Reply, ¶ 258; Investor Reply Exhibit 61.

[259] Second Affidavit of Wendy Sexsmith, ¶¶ 99-100; Investor Reply Exhibit 61.

Chemtura's home jurisdiction, the United States – confirms that those requesting lindane replacements were on the right side of history.

13) Chemtura attempted to obtain a U.S. tolerance or registration but failed

122. To bolster its case that lindane use could have continued in North America "but for" the PMRA's actions, the Claimant has alleged that it could have obtained a parallel U.S. registration or residue tolerance for lindane on canola. The Reply reiterates that the EPA generally took a positive view of lindane;[260] and that the only reason Claimant was unsuccessful in its efforts to obtain a U.S. tolerance or registration on lindane was that it decided not to pursue them, in the circumstances of the Canadian lindane withdrawal.[261] Both of these contentions are false.

123. Dr. Lynn Goldman has reviewed the Claimant's internal documents relevant to its EPA efforts, produced pursuant to Canada's requests. In her second report, Dr. Goldman surveys how these documents systematically belie all of the Claimant's EPA-related contentions, confirming the views of her first report based on the public record.[262]

124. Dr. Goldman notes that as of its interim 2002 Re-registration Eligibility Decision (RED), the EPA already had significant concerns about occupational exposure risk, dietary risk, and lindane's effect as an endocrine disruptor. During the period of public comment that followed, from 2002 to 2006, the risk factors considered by the EPA increased. Contrary to the Claimant's contentions, it attempted to fulfill the data requirements the EPA had set for the extension of a lindane tolerance to canola, but experienced considerable difficulties.[263] By 2005, the EPA was already signalling that remaining registrations should be withdrawn. By the summer of 2006, the EPA directed Chemtura to withdraw these registrations or face summary cancellation. In sum,

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[260] Claimant's Reply, ¶¶ 300-301; Second Statement of Evidence of Paul Thompson, ¶ 108; Second Statement of Evidence of James Aidala, ¶¶ 17-21; Second Statement of Evidence of Edwin Johnson, ¶ 4.

[261] Claimant's Reply, ¶¶ 295-296, 302-303; Second Statement of Evidence of James Aidala, ¶¶ 16, 33; Second Statement of Evidence of Edwin Johnson, ¶¶ 7-8.

[262] *See generally* Second Expert Report of Dr. Goldman.

[263] Second Statement of Evidence of Edwin Johnson, ¶¶ 4, 12.

Chemtura never obtained a U.S. registration or tolerance for lindane use on canola because the U.S. regulator, like the PMRA, determined that lindane use presents unacceptable risks.

Minimum Standard
Art.1105

III. PRINCIPLES OF NAFTA INTERPRETATION

125. Having reviewed Chemtura's Reply arguments regarding the principles of NAFTA interpretation, Canada repeats and relies on the principles and arguments that it articulated in this regard in its Counter-Memorial.

IV. THERE IS NO VIOLATION OF NAFTA ARTICLE 1105(1)

A. Summary of Canada's position

126. The Claimant's Reply confirms the parties' agreement on several fundamental points regarding the interpretation of Article 1105:

- *First*, the 2001 Note of Interpretation is binding on the Tribunal.[264] This Note confirms that the standard under Article 1105 is the customary international law minimum standard of treatment of aliens (customary MST);
- *Second*, the Claimant bears the burden of demonstrating the evolution of customary MST that it alleges;[265] and
- *Third*, the Claimant must prove this alleged evolution of customary MST based upon evidence both of State practice and of *opinio juris*.[266]

127. Having admitted the structure of analysis of customary MST under Article 1105(1), the Claimant's Reply fails on its own terms:

- The Claimant seeks to render the Note of Interpretation meaningless by ignoring the high threshold for breach of customary MST.
- The Claimant instead seeks to substitute the recognized high threshold and content of customary MST for a lower standard and broader content.
- The Claimant is unable to demonstrate that the evolution of customary MST it alleges is supported in State practice or *opinio juris*.

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[264] Claimant's Reply, ¶ 320: "The Investor does not dispute that FTC Notes of Interpretation are binding on Chapter 11 tribunals."

[265] Claimant's Reply, ¶¶ 402, 404, 412-415: the Claimant recognizes that it bears this burden but the parties disagree as to how the burden should be discharged.

[266] Claimant's Reply, ¶ 405: "Two elements are required to establish a new rule or the evolution of an existing customary international law rule: general and consistent practice and *opinio juris*."

128. The Claimant has also failed to discharge its burden of proving *any* alleged breach of Article 1105(1).

129. The end result is an articulation of Article 1105(1) that is wrong at law, and whose application fails on the facts.

B. A high threshold exists for the breach of customary MST

1) NAFTA Chapter 11 Tribunals have consistently recognized the high threshold for breach of Article 1105(1)

130. In the present case, the parties agree that the July 31, 2001 NAFTA Free Trade Commission Note of Interpretation[267] is binding upon the Arbitral Tribunal.[268]

131. NAFTA awards following the 2001 Note of Interpretation have uniformly recognized the high threshold required to establish a breach of customary MST. Canada reviewed this jurisprudence in detail in its Counter-Memorial.[269] Most recently the tribunal in *Glamis*, surveying the post-Note of Interpretation jurisprudence, confirmed the high threshold consistently recognized by NAFTA Tribunals:

> It therefore appears that, although the situation may be more varied and complicated today than in the 1920s, the level of scrutiny is the same. The fundamentals of the *Neer* standard thus still apply today: to violate the customary international law minimum standard of treatment codified in Article 1105 of the NAFTA, an act must be sufficiently egregious and shocking – a gross denial of justice, manifest arbitrariness, blatant unfairness, a complete lack of due process, evident discrimination, or a manifest lack of reasons – so as to fall below accepted international standards and constitute a breach of Article 1105(1). The Tribunal notes that one aspect of evolution from *Neer* that is generally agreed upon is that bad faith is not required to find a violation of the fair and equitable treatment standard, but its presence is conclusive evidence of such. Thus, an act that is egregious or shocking may also evidence bad faith, but such bad faith is not necessary for the finding of a

[267] NAFTA Free Trade Commission, Notes of Interpretation of Certain Chapter Eleven Provisions, 31 July 2001. (NAFTA – Notes of Interpretation) (Annex R-242).

[268] Claimant's Reply, ¶ 320.

[269] Canada's Counter-Memorial, ¶¶ 676-688.

> violation. The standard for finding a breach of the customary international minimum standard of treatment therefore remains as stringent today as it was under *Neer*; it is entirely possible, however that, as an international community, we may be shocked by State actions that did not offend us previously.[270]

132. In its Memorial, the Claimant relied on NAFTA decisions in an attempt to establish the content of Article 1105(1) (for example, the obligation of due process) while avoiding altogether the issue of threshold.[271] As Canada pointed out in its Counter-Memorial, the Claimant severely misstated these decisions.[272] By using "qualifiers", the Claimant actually lowered the threshold recognized in these decisions and effectively misstated the content of customary MST as recognized by NAFTA tribunals.

133. In its Reply, the Claimant fails to put forward any cogent response regarding its misstatement of NAFTA jurisprudence.[273] The Claimant argues instead that "[t]he threshold for breach of Article 1105(1) is neither high nor low"[274] and that "the standard of proof required to demonstrate a breach of Article 1105(1) is neither higher nor lower than the proof required to demonstrate a breach of any other treaty standard."[275] Obviously, the Claimant confuses the *standard of liability* under customary MST, with the *standard of proof* required to conclude to a breach of that standard of liability.[276] The two elements are distinct. The Claimant's reference to the "standard of proof" is of no assistance to its argument.

134. While Canada has never held that the classic customary standard articulated in *Neer* is frozen in time, a high threshold still exists for breach of customary MST.[277]

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[270] *Glamis Gold, Ltd. v. United States*, (UNCITRAL) Award, ¶ 616 (8 June 2009) (Annex R-345) (*Glamis – Award*).

[271] Claimant's Memorial, ¶¶ 344-348.

[272] Canada's Counter-Memorial, ¶¶ 689-690.

[273] Claimant's Reply, ¶¶ 341-345.

[274] Claimant's Reply, ¶ 418 (title)

[275] Claimant's Reply, ¶ 418.

[276] Claimant's Reply, ¶ 418ff.

[277] *See* Canada's Counter-Memorial, ¶¶ 687-688; *see also ADF Group Inc. v. United States* (ICSID No. ARB (AF)/00/1), Second Submission of Canada pursuant to NAFTA Article 1128 (19 July 2002), ¶ 33 (Annex R-144): "Canada's position has never been that the customary international law regarding the treatment of aliens was "frozen in amber" at the time of the *Neer* decision. Obviously, what

While the Claimant purports to agree that the FTC 2001 Interpretation is binding on this tribunal, its arguments demonstrate the contrary. In fact, the Claimant can only succeed if this Tribunal disregards the high threshold set by customary international law.

2) The Claimant's attempts to lower the threshold for breach of customary MST

135. The Claimant attempts to lower the threshold for the standard in Article 1105(1) of NAFTA in three main ways. First, it tries to amalgamate domestic and international standards of review. Second, it transforms the "minimum" standard of treatment into a "maximum" standard of treatment, arguing that customary MST imposes a different, more exacting standard on developed countries such as Canada.[278] Third, it imports the lower threshold for breach applied by some tribunals interpreting free-standing fair and equitable treatment clauses. These attempts to avoid the proper threshold should be rejected by this Tribunal.

a) Customary MST is not equal to a domestic administrative law standard of review

136. Many of the Claimant's arguments under Article 1105(1) rely on an alleged breach of domestic review standards. Chemtura is not seeking reparation for a breach of customary MST. Rather, it is asking the Tribunal to apply a domestic administrative law standard of review. This is fundamentally misconceived.

137. Chemtura's error is evident on the face of its complaints. In support of its allegations of breach, Chemtura relies heavily on selected findings of the lindane Board of Review. There are two fundamental problems with this reliance. First, a breach of domestic administrative review standards (even if proven) would not automatically lead to a breach of the customary MST. Second, the Claimant fails to recognize that Canada implemented the Board's recommendations. The Tribunal should look at the record as a whole, and not to isolated events.

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is shocking or egregious in the year 2002 may differ from that which was considered shocking or egregious in 1926. Canada's position has always been that customary international law can evolve over time, *but that the threshold for finding violations of minimum standard of treatment is still high.*" (emphasis added)

[278] Claimant's Reply, ¶¶ 328-329.

138. The Claimant's proposed test would convert any imperfection of the domestic administrative process into a breach of international law. This is clearly wrong at law. It has long been held that simple illegality or lack of authority does not automatically lead to a State being held in breach of international law. Something more is required. In its Counter-Memorial, Canada provided references in support of this proposition.[279] Under NAFTA Chapter 11, namely, the Tribunal in *ADF* noted that:

> the Tribunal has no authority to review the legal validity and standing of the U.S. measures here in question under U.S. internal administrative law. We do not sit as a court with appellate jurisdiction with respect to U.S. measures...But something more than simple illegality or lack of authority under the domestic law of a state is necessary to render an act or measure inconsistent with the customary international law requirements of Article 1105(1)."[280]

139. In *Thunderbird*, the Tribunal recognized differences between the domestic and international standards, but also between judicial and administrative standards. It stated:

> The Tribunal does not exclude that the [*Secretaria de Gobernación* or SEGOB, the administrative decision-maker] proceedings may have been affected by certain irregularities. Rather, the Tribunal cannot find on the record any administrative irregularities that were grave enough to shock a sense of judicial propriety and thus give rise to a breach of the minimum standard of treatment. As acknowledged by Thunderbird, the SEGOB proceedings should be tested against the standards of due process and procedural fairness applicable to administrative officials. The administrative due process requirement is lower than that of a judicial process.[281] (emphasis added)

140. Yet in this case, Chemtura is asking the Tribunal to apply a domestic administrative law standard of review. The Claimant alleges that the Special Review was not conducted "properly" or based on "sound science", suggesting that a standard of

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[279] Canada's Counter-Memorial, ¶ 679; ELSI [1989] I.C.J. Rep. 15, ¶ 124 (Annex R-181); *See also* Freeman, Alwyn V., THE INTERNATIONAL RESPONSIBILITY OF STATES FOR DENIAL OF JUSTICE (Toronto: Longmans, Green and Co., 1938) (Annex R-192).

[280] *ADF Group Inc. v. United States* (ICSID No. ARB (AF)/00/1) Award (9 January 2003), ¶ 190 (Annex R-143) (*ADF – Award*), cited at Canada's Counter-Memorial, ¶ 679.

[281] *International Thunderbird Gaming Corporation v. Mexico* (UNCITRAL) Arbitral Award (26 January 2006), ¶ 200 (Annex R-287) (*Thunderbird – Award*).

correctness should be applied.[282] Further, the Claimant argues that it expected to have an "opportunity to participate and be reasonably informed".[283] In its Reply, the Claimant alleges that one way in which a State can breach its obligations under Article 1105(1) is through a "lack of transparency and candour in an administrative process."[284] In support of its allegation that Canada has committed such a breach, the Claimant references the findings of the lindane Board of Review. The Claimant argues that:

> The administrative process to which the Investor and its investment were subjected by the PMRA was anything but transparent or candid. This was precisely the finding of the Lindane Board of Review.
>
> ...
>
> On the totality of the evidence, it is clear that Canada has breached its obligations under Article 1105(1).[285]

141. The Board of Review, in reaching its conclusions, was applying the Canadian domestic administrative review standard, referring expressly to the *Baker* case.[286] *Baker v. Canada (Minister of Citizenship and Immigration)*[287] is a decision of the Supreme Court of Canada that set the domestic standard of review to be applied by Canadian administrative board and tribunals. Specifically, the Board's reference to *Baker* concerned the PMRA's obligation to provide Chemtura with a "meaningful opportunity for input". In *Baker*, the Canadian Supreme Court links "meaningful participation" in an

[282] Claimant's Reply, ¶ 378.

[283] Claimant's Reply, ¶ 378.

[284] Claimant's Reply, ¶ 351.

[285] Claimant's Reply, ¶¶ 399-401; *Board of Review Report*, ¶ 114 (Exhibit WS-71). As Canada has noted, the Claimant's reliance on the Board of Review decision is selective and misleading. Chemtura notably omits the Board's key finding that the results of the Special Review were within scientifically acceptable parameters; that the PMRA's method for determining acceptable risk was scientifically sound; and that the Claimant did not offer to produce or share new and more relevant data throughout the Special Review: *Board of Review Report*, ¶¶ 115, 109-111 (Exhibit WS-71).

[286] *Board of Review Report*, ¶ 104 (Exhibit WS-71).

[287] *Baker v. Canada (Minister of Citizenship and Immigration)*, [1999] 2 S.C.R. 817 (*Baker*) (Annex R-340).

administrative process with a broad duty of fairness that Canadian administrative decision-makers owe to those affected by their decisions.[288]

142. It is within the purview of the Supreme Court of Canada to apply such a high standard for administrative fairness within the Canadian context.[289] That does not mean that this domestic standard should be taken as replacing customary MST under Article 1105(1). Yet that it precisely what the Claimant suggests this Tribunal should do.

143. The second problem with the Claimant's arguments is that Canada has already implemented the Board of Review's recommendations regarding the Special Review. In this regard, the Tribunal in *GAMI* held that:

> A claim of maladministration would likely violate Article 1105 if it amounted to an "outright and unjustified repudiation" of the relevant regulations. There may be situations where even lesser failures would suffice to trigger Article 1105. It is the record as a whole – not dramatic incidents in isolation – which determines whether a breach of international law has occurred.[290]

144. In this case, the existence of the Board of Review itself confirms that the Claimant was not denied due process. Moreover, to the extent that the Board (applying the Canadian domestic standard) expressed certain criticisms of the Special Review process, the Claimant was offered a full remedy, in the lindane Re-evaluation (REN) undertaken by the PMRA after the Board of Review. As Canada has demonstrated, that extensive process was fair, included multiple opportunities for the Claimant to be heard, and called upon a new scientific team that had had no involvement in the original Special Review. The REN has ultimately reached a similar conclusion to the Special Review: that lindane use presents an unacceptably high risk to human health. It has also determined that lindane use poses a significant threat of environmental contamination.

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[288] *Baker*, ¶ 33.

[289] Some elements of the decision in Baker have been superseded by the recent Canadian Supreme Court ruling in *Dunsmuir v. New Brunswick*, [2008] 1 S.C.R. 190 (Annex R-341). Because the Board of Review based its conclusions on *Baker*, however, Canada has referred to that standard.

[290] *GAMI Investments, Inc. v. Mexico* (UNCITRAL) Final Award (15 November 2004), ¶ 103 (Annex R-196) (*GAMI – Final Award*).

b) The threshold for breach of customary MST does not vary from State to State

145. The Claimant further seeks to lower the threshold for breach of customary MST by suggesting that this threshold should "vary" from state to state. This argument also fails. Given its status as international customary law, customary MST is universal. Claimant's allegation that the standard should vary, depending on the level of development of the country in question, is wrong at law.[291] As Canada noted in its Counter-Memorial "the customary international law minimum standard of treatment is exactly as its name describes it – a minimum standard universally applicable as an absolute, below which no State should fall"[292], and that "the international standard is entirely distinct from domestic legal regimes".[293] Such a standard is by no means "trivial", as the Claimant suggests.[294]

146. The claimant in *Glamis* rehearsed the very same argument upon which Chemtura now relies. The *Glamis* Tribunal provided the following response:

> The customary international law minimum standard of treatment is just that, a minimum standard. It is meant to serve as a floor, an absolute bottom, below which conduct is not accepted by the international community. Although the circumstances of the case are of course relevant, the standard is not meant to vary from state to state or investor to investor...The fair and equitable treatment promised by Article 1105 is not dynamic; it cannot vary between nations as thus the protection afforded would have no minimum.[295]

147. The *Glamis* tribunal's firm dismissal speaks volumes about Claimant's suggestion it is "well-established" that consideration of the level of development is open "in the appropriate circumstances".[296]

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[291] Claimant's Reply, ¶ 338.

[292] Canada's Counter-Memorial, ¶ 776.

[293] Canada's Counter-Memorial, ¶ 776.

[294] Claimant's Reply, ¶ 330.

[295] *Glamis – Award*, ¶ 615 (Annex R-345).

[296] Claimant's Reply, ¶ 328.

148. The Claimant's reiteration of cases allegedly supporting its theory is of no more assistance.[297] As Canada explained in its Counter-Memorial, the cases relied on by the Claimant contain references to the risks that an investor can be expected to bear when investing in a foreign economy. They do not address the issue of variance of the standard.[298]

c) Awards applying a lower threshold for breach under differently worded provisions are of limited assistance in interpreting customary MST

149. The Claimant further seeks to modify the recognized threshold for breach of customary MST by referring the tribunal to awards where, under differently worded treaties, a lower threshold was applied. These decisions, since they were not interpreting customary MST, are of limited assistance to this Tribunal.

150. To state a few examples, the Tribunals in *Saluka* and *National Grid* were asked to interpret "free-standing" fair and equitable treatment obligations.[299] Notably, the tribunal in *Saluka* confirmed that customary MST, as distinct from free-standing "fair and equitable treatment" clauses, provided no more than "minimal protection" so that a violation of this standard would require "a relatively higher degree of inappropriateness".[300] Other decisions relied upon by the Claimant expressly found that they were not bound by customary international law.[301]

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[297] Claimant's Reply, ¶¶ 332-336

[298] Canada's Counter-Memorial, ¶ 781. The following arbitral awards all address the assumption of risk: *Genin v. Republic of Estonia* (ICSID No. ARB/99/2) Award (25 June 2001) (Annex R-200); *X v. Central European Republic* (SCC Case 29/2002) Award (2003), reprinted in Stockholm Arb. Rep. 141 (2004) (Annex R-304); *Generation Ukraine v. Ukraine* (ICSID No. ARB/00/9) Award (13 September 2003) (Annex R-199). *Saluka* simply references the fact that perceived differences between the treaty standard at issue, and international law, "could be explained by the contextual and factual differences of the cases to which the standards have been applied." *Saluka Investments B.V. v. Czech Republic* (UNCITRAL) Partial Award (17 March 2006), ¶ 291 (Annex R-270) (*Saluka – Partial Award*). This does not support the Claimant's argument.

[299] By "free-standing" fair and equitable treatment obligations, Canada is referring to treaties which provide for "fair and equitable treatment", without any reference to either a minimum standard of treatment or to international law, both of which reference the customary international minimum standard.

[300] *Saluka – Partial Award*, ¶ 292 (Annex R-270).

[301] *Azurix v. Argentine Republic* (ICSID No. ARB/01/12) Award (14 July 2006), ¶ 361 (Annex R-155) (*Azurix – Award*); *CMS Gas Transmission Company v. Argentine Republic* (ICSID No. ARB/01/8)

151. As the *Glamis* tribunal recently noted, given that the standard upheld under Article 1105(1) is customary MST, a distinction must be made between arbitral awards that depend upon an inquiry into customary international law and those that do not. Given the differences in the two enquiries, the tribunal found that:

> ...arbitral decisions that apply an autonomous standard provide no guidance inasmuch as the entire method of reasoning does not bear on an inquiry into custom. The various BITs cited by Claimant may or may not illuminate customary international law; they will prove helpful to this Tribunal's analysis when they seek to provide the same base floor of conduct as the minimum standard of treatment under customary international law; but they will not be of assistance if they include different protections than those provided for in customary international law.[302]

152. Presented with an argument similar to that of the Claimant's in this case, to the effect that the BIT jurisprudence has "converged with customary international law in this area",[303] the tribunal rejected this contention:

> The Tribunal finds this to be an over-statement. Certainly, it is possible that some BITs converge with the requirements established by customary international law; there are, however, numerous BITs that have been interpreted as going beyond customary international law, and thereby requiring more than that to which the NAFTA State Parties have agreed. It is thus necessary to look to the underlying fair and equitable clause of each treaty, and the reviewing tribunal's analysis of that treaty, to determine whether or not they are drafted with an intent to refer to customary international law.[304]

153. The Claimant cites cases in support of its position that "there is no real principled difference between the customary international law minimum standard of treatment and international law standard of fair and equitable treatment".[305] Its treatment of the cases,

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Final Award (12 May 2005), ¶ 284 (Annex R-172) (*CMS – Final Award*); *Duke Energy Electroquil Partners, et al. v. Republic of Ecuador* (ICSID No. ARB/04/19) Award (18 August 2008), ¶¶ 333-337 (*Duke Energy v. Ecuador – Award*) (Annex R-362).

[302] *Glamis – Award*, ¶ 609 (Annex R-345).

[303] *Glamis – Award*, ¶ 609 (Annex R-345).

[304] *Glamis – Award*, ¶ 609 (Annex R-345).

[305] Claimant's Reply, ¶ 347.

however, fails to duly account for a number of important facts. First, in each instance, the tribunals state that the distinction would not make a difference in the context of the specific facts of their case.[306] Second, tribunals have focused their remarks on the content of the standards, noting that certain obligations are no different under either standard.[307] Third, since none of the tribunals purported to apply customary MST, their comments are *obiter*.[308] As such, none of the cases cited provide support for the argument that the threshold for breach of customary MST under NAFTA is no longer high.

154. This interpretation of the cases is confirmed by the Dolzer and von Walter article on which the Claimant elsewhere relies:

> Another general issue concerns the question whether or not, in today's circumstances, the standard of fair and equitable treatment in customary law is in its content distinct from a free-standing treaty standard. At first sight, the NAFTA Interpretative Note in itself and seen against the background of the pre-Interpretative Note jurisprudence seems to indicate that different versions exist. Recent non-NAFTA jurisprudence discussed above, however, seems to point to one single standard, valid both for treaty law and for customary law. However, no tribunal has so far argued that the standards have in practice merged *in toto*. All the BIT rulings discussed above have limited their discussion to the circumstances of the specific cases before the tribunals and have refrained from issuing any broader statements.[309] (emphasis added)

155. Certainly no NAFTA Tribunal has come to the conclusion that customary MST has evolved to such an extent as to make it identical to the free-standing "fair and equitable treatment" standard found in other treaties.

C. The Claimant has failed to establish the content it alleges for

[306] For example, the *CMS* tribunal found that "while the choice between requiring a higher treaty standard and that of equating it with the international minimum standard might have relevance in the context of some disputes, the Tribunal is not persuaded that it is relevant *in this case*." *CMS – Final Award*, ¶ 284 (Annex R-172).

[307] *See e.g. Saluka – Partial Award*, ¶ 291 (Annex R-270).

[308] *Azurix - Award*, ¶ 361 (Annex R-155); *CMS – Final Award*, ¶ 284 (Annex R-172); *Duke Energy v. Ecuador – Award*, ¶¶ 333-337 (Annex R-362).

[309] Rudolf Dolzer and André von Walter, "Fair and Equitable Treatment – Lines of Jurisprudence on Customary Law" in F. Ortino, L. Liberti, A. Sheppard and H. Warren, eds., *Investment Treaty Law*, Vol. II (BIICL, 2008) 99 at p. 112 (Annex R-342).

customary MST

156. A number of NAFTA tribunals have now interpreted customary MST in Article 1105(1). Canada has already outlined these findings in its Counter-Memorial. For example, there is no doubt that a denial of justice is covered by Article 1105(1).

157. The 2001 FTC Interpretation made clear that the concept of fair and equitable treatment did not require treatment "in addition to or beyond" customary MST. As the *Mondev* Tribunal noted:

> The FTC interpretation makes it clear that in Article 1105(1) the terms "fair and equitable treatment" and "full protection and security" are, in the view of the NAFTA Parties, references to *existing* elements of the customary international law standard and are not intended to add novel elements to that standard.'[310]

158. All three NAFTA Parties have expressly rejected the notion that they are bound, under customary MST by a set of novel obligations including a stand-alone good faith requirement, transparency, or by a general doctrine of legitimate expectations.[311]

159. The Claimant's arguments to the effect that customary MST has evolved in the manner it alleges fail both in their general articulation, regarding the alleged evolution of customary international law; and in their specific application, regarding particular additions to customary MST (good faith, transparency, legitimate expectations). The Claimant's attempt to otherwise vitiate the content of the standard by making it entirely "contextual" is of no more assistance.

160. *First*, the Claimant alleges an evolution of customary MST without grounding that evolution in its two elements: 1) a concordant practice of a number of States

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[310] *Mondev International Ltd. v United States* (ICSID No. ARB(AF)/99/2) Award (11 October 2002), ¶ 122 (Annex R-238) (*Mondev – Award*).

[311] *Merrill & Ring Forestry L.P. v. Canada* (UNCITRAL) Canada's Counter-Memorial (13 May 2008), ¶¶488-491, 507-509, 528-529 (Annex R-343); *Glamis Gold, Ltd. v. United States* (UNCITRAL) U.S. Counter-Memorial (19 September 2006) at ¶¶ 216-217, 218 (*See* fn 957), 226-227, 230-233 (Annex R-344) (*Glamis – U.S. Counter-Memorial*).

acquiesced by others; and 2) a conception that the practice is required by or consistent with the prevailing law (*opinio juris*).[312]

161. *Second*, it has failed to prove that the "novel elements" it argues here have reached the status of customary international law.

162. *Third,* it attempts to avoid the burden of proving an evolution of customary international law by advocating that customary MST has no fixed core, but is rather "wholly contextual". This approach has no support in law and is contradicted by the Claimant's own arguments.

1) The Claimant has failed to ground its alleged evolution of customary international law in State practice and *opinio juris*

163. The Claimant argues that there is no reason that customary international law might not evolve rapidly. It fails to note that the conditions for such a rapid evolution have not been met. The Claimant itself acknowledges the requirement for "consistency" and that the standard "must appear to be generally accepted among States".[313] As the ICJ noted in the *North Sea Continental Shelf Case*, State practice must be "both extensive and virtually uniform" where it is asserted that a rule of customary international law has emerged in a short period of time.[314]

164. Chemtura also claims that "it is widely recognized that there is no set period of time within which a customary international law rule may evolve or emerge", attributing the idea to Professor Brownlie.[315] This argument is beside the point, where the basic requirements of consistency and general recognition of custom (*opinio juris*) have not been achieved. As Professor Brownlie notes in the passage upon which the Claimant relies:

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[312] Claimant's Reply, ¶¶ 403-417; *Statute of the International Court of Justice*, Art. 38(1)(b) (Annex R-206); *North Sea Continental Shelf Cases (Federal Republic of Germany v. Denmark / Federal Republic of Germany v. Netherlands)*, Judgment [1969] I.C.J. Rep. 3, at 75 (Annex R-247).*North Sea Continental Shelf*, ¶ 74 (Annex R-247) (*North Sea Continental Shelf*).

[313] Claimant's Reply, ¶ 406.

[314] *North Sea Continental Shelf*, ¶ 75 (Annex R-247).

[315] Claimant's Reply, ¶ 404.

> Provided the consistency and generality of a practice are proved, no particular duration is required: the passage of time will of course be part of the evidence of generality and consistency. A long (and much less, an immemorial) practice is not necessary, and rules relating to airspace and the continental shelf have emerged from fairly quick maturing of practice. The International Court does not emphasize the time element as such in its practice.[316]

165. Yet the Claimant has failed to prove either a consistent practice of States, or that States, in acting in this manner, have done so based upon a sense of legal obligation. In other words, the conditions for such a rapid evolution have simply not been made out.

a) Arbitral awards do not create customary international law

166. Arbitral awards, at best, may point to evidence of customary international law. They do not in themselves stand as a source of either State practice or *opinio juris*. As the tribunal in *Glamis* recently noted:

> Arbitral awards, Respondent rightly notes, do not constitute State practice and thus cannot create or prove customary international law. They can, however, serve as illustrations of customary international law if they involve an examination of customary international law, as opposed to a treaty-based, or autonomous, interpretation.[317] (emphasis added)

167. As Canada has noted in its Counter-Memorial, citing Sir Hersch Lauterpacht, "[d]ecisions of international courts are not a source of international law…[t]hey are not direct evidence of the practice of States or of what States conceive to be the law."[318] Arbitral decisions are relevant to the determination of custom only to the extent that they contain valuable analysis of State practice. They may provide a useful tool for determining the content of customary international law in this way. They do not in themselves constitute the practice of States. The cases cited by Claimant, as noted above, do not contain an analysis of either State practice or *opinio juris*.

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[316] Ian Brownlie, *Public International Law*, 6th ed. (OUP, 2003) at 7 (cited in Claimant's Reply at ¶ 404) (emphasis added).

[317] *Glamis – Award*, ¶ 605 (Annex R-345).

[318] Sir Hersch Lauterpacht, THE DEVELOPMENT OF INTERNATIONAL LAW BY THE INTERNATIONAL COURT (London: Stevens, 1958), at p. 20-21 (Annex R-216).

b) Customary international law cannot be proved by counting Bilateral Investment Treaties

168. The evolution of customary international law cannot be confirmed simply by counting "fair and equitable" provisions in treaties.

169. Canada has already addressed this argument in its Counter-Memorial.[319] As was noted there, the creation of new customary international law is not accomplished by a simple counting of treaties.[320] Nor does the existence of treaties create the presumption of a new rule of customary international law.[321]

170. The Claimant's reliance on an article by Judge Schwebel to bolster this argument fails to assist. His comment that rules "become generalized through the conclusion of other similar conventions" begs the question of whether that "generalization" is through treaty or through custom.[322] The Claimant's reliance on Professor Vicuña is similarly unhelpful: he simply notes that it is "evident that the process of protecting foreign investment is becoming global through numerous BITs. To this extent, the standards of treatment have become global in their application."[323] (emphasis added). In other words, Professor Vicuña is simply repeating the truism that broader treaty coverage leads to an extension of the treaty standard.

171. As for the notion that the signature of treaties necessarily leads to the evolution of customary international law, the International Law Association (ILA) recently noted to the contrary: "[t]here is no presumption that a succession of similar treaty provisions

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[319] Canada's Counter-Memorial, ¶¶ 749-764.

[320] Canada's Counter-Memorial, ¶ 753.

[321] Canada's Counter-Memorial, ¶ 753.

[322] Stephen Schwebel, "The Influence of Bilateral Investment Treaties on Customary International Law" in *Investor-State Disputes and the Development of International Law*, American Society of International Law: Proceedings of the Annual Meeting (2004), at 27 (cited in Claimant's Reply at ¶ 407, 409, fn 493).

[323] Francisco Orrego Vicuña, "From Preston to Prescott: Globalizing Legitimate Expectation" in S. Charnovitz, D. Steger and P. van den Bossche, eds., *Law in the Service of the Human Dignity* (Cambridge University Press, 2008) 301 at pp. 309-10 (cited in Claimant's Reply at ¶ 411, fn 398) (emphasis added).

gives rise to a new customary rule with the same content."[324] Indeed, the ILA specifically addressed the question of the impact of BITS on custom, finding in the negative:

> The question of the legal effect of a succession of similar treaties or treaty provisions arises particularly in relation to bilateral treaties, such as those dealing with extradition or investment protection...[T]here seems to be no reason of principle why these agreements, however numerous, should be presumed to give rise to new rules of customary law or to constitute the State practice necessary for their emergence...Some have argued that provisions of bilateral investment protection treaties (especially the arrangements about compensation or damages for expropriation) are declaratory of or have come to constitute, customary law. But...there seems to be no special reason to assume that this is the case, unless it can be shown that these provisions demonstrate a widespread acceptance of the rules set out in these treaties outside the treaty framework.[325] (emphasis added)

Judge Schwebel himself notes that "the process by which provisions of treaties binding only the parties to those treaties may seep into general international law and thus bind the international community at a whole *is subtle and elusive*" (emphasis added).[326] This simply underscores that mere reference to treaties is an insufficient means of confirming the evolution of customary international law.

172. This argument has by now been raised several times before NAFTA Tribunals. They have consistently rejected it. As the *ADF* Tribunal noted:

> We are not convinced that the Investor has shown the existence, in current customary international law, of a general and autonomous requirement (autonomous, that is, from specific rules addressing particular, limited context) to accord fair and equitable treatment and full protection and security to foreign investments. The Investor, for instance, has not shown that such a requirement has

[324] International Law Association, STATEMENT OF PRINCIPLES APPLICABLE TO THE FORMATION OF GENERAL CUSTOMARY INTERNATIONAL LAW, Final Report of the Committee, London Conference (2000), at 47 (Principle No. 25) (Annex R-207) (*ILA – Statement of Principles*) (emphasis added).

[325] *ILA – Statement of Principles*, at 48 (Principle No. 25) (Annex R-207).

[326] Stephen Schwebel, "The Influence of Bilateral Investment Treaties on Customary International Law" in *Investor-State Disputes and the Development of International Law*, American Society of International Law: Proceedings of the Annual Meeting (2004), at p. 29 (cited in Claimant's Reply at ¶ 407, 409, fn 493).

> been brought into the corpus of present day customary international law by the many hundreds of bilateral investment treaties now extant.[327]

173. The *UPS* Tribunal for its part noted that "in terms of *opinio juris* there is no indication that [the BITs] reflect a general sense of obligation."[328]

174. For their part, all three NAFTA Parties have consistently rejected the notion that BITs establish customary international law. Canada has referred to the submissions of all three State parties in its Counter-Memorial.[329]

175. The Claimant confuses the issue of proving customary international law, relying on doctrine to the effect that "within NAFTA…the precise contours of defining the normative guidelines for the evolutionary process" are unclear.[330] This view is incorrect. The manner in which customary international law evolves – through a combination of state practice and *opinio juris* – is well-established at public international law, and has repeatedly been recognized and affirmed by NAFTA tribunals.[331] Furthermore, NAFTA tribunal have repeatedly placed the burden of proving the existence of rule of customary international law on the party that alleges it.[332] The Claimant has failed to do so.

c) State practice lacks the element of consistency

176. One of the two elements required to establish custom is consistent State practice. The signature of BITs fails to prove this element of the test. Contrary to the Claimant's suggestion, State practice with regard to "fair and equitable" treaty provisions is far from uniform.

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[327] *ADF – Award*, ¶ 183 (Annex R-143).

[328] *UPS v. Canada* (UNCITRAL) Award on Jurisdiction (22 November 2002), ¶ 97 (Annex R-298) (*UPS – Jurisdiction Award*).

[329] Canada's Counter-Memorial, ¶ 756.

[330] Claimant's Reply, ¶ 403, quoting Dolzer and von Walter, "Fair and Equitable treatment – Lines of Jurisprudence on Customary law" at p. 113 (Annex R-342).

[331] Canada's Counter-Memorial, ¶¶ 742-745.

[332] Canada's Counter-Memorial, ¶¶ 746-748.

177. As UNCTAD determined in a recent survey, States have adopted a wide variety of standards of protection in the various BITs to which they have subscribed. According to UNCTAD, the majority of "fair and equitable treatment" clauses in international investment agreements do not include any reference to international law. Moreover, significant textual differences between the relevant provisions confirm that a single standard has not emerged.[333] Professor McLachlan has pointed out these treaties fall "considerably short of anything approaching universality" and that "there are numerous differences between the treaty texts as a result of bilateral negotiation."[334]

d) The signature of treaties is not evidence of *opinio juris*

178. There is also no evidence that States have subscribed to investor protections in International Investment Agreements (IIAs) out of a sense of obligation. The Claimant's argument that the signature of BITs in itself demonstrates *opinio juris* is wrong at law, since it confuses practice with the sense of obligation required to turn that practice into international customary law.[335]

179. The Claimant's reliance on the writings of Professor Brownlie are of no assistance, given that the criteria which he suggests for determining *opinio juris* – general practice and consensus – are absent in the present case.[336]

180. The Claimant's main evidence of *opinio juris* is "interpretation of this obligation by arbitral tribunals".[337] This demonstrates the fundamental confusion of the Claimant's

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[333] UNCTAD, Fair and Equitable Treatment, Series on Issues in International Investment Agreements, UNCTAD/ITE/IIT/11 (Vol. III) (1999), at 13, 40, 40, 132. UNCTAD had as of 2007 identified seven basic models of "fair and equitable treatment" obligation: *See* UNCTAD, *Bilateral Investment Treaties 1995-2006: Trends in Investment Rule-Making*, (2007) UNCTAD/ITE/IIT/2006/5 at 28-33 (Annex R-295).

[334] McLachlan, Campbell, Investment Treaties and General International Law (2008) 57 I.C.L.Q. 361 at 393 (Annex R-229). *See also* Faruque, Abdullah Al, Creating Customary International Law Through Bilateral Investment Treaties: A Critical Appraisal (2004) 44 INDIAN J. INT'L L. 292 at 301-310 (Annex R-186).

[335] Claimant's Reply, ¶¶ 414-417.

[336] Brownlie, *Principles of Public International Law*, at p. 8-9 (cited in Claimant's Reply at ¶ 406, 414-415, fn 392, 400, 402).

[337] Claimant's Reply, ¶ 416.

position. Arbitral decisions constitute neither State practice, nor *opinio juris*. It is moreover unclear to which decisions the Claimant is referring. There are certainly no NAFTA decisions that make a finding that treaty interpretations of free-standing "fair and equitable treatment" clauses have redefined customary MST, nor *a fortiori* that there is evidence of either state practice or *opinio juris* in this regard. Indeed, Claimant's argument in this regard is entirely circular and self-serving.[338] It suggests that because certain arbitral tribunals (it fails to cite which ones) have interpreted "this [treaty] obligation" (it fails to make clear which) as a "flexible set of principles", this must stand as "evidence" of States intentions to be bound in *customary* international law by "an objective but flexible standard". This is patently wrong at law. In addition, all of this says nothing about the actual content of the standard.

181. Contrary to the Claimant's allegation, in the absence of any positive evidence of *opinion juris*, it is highly relevant that the Parties to the NAFTA have rejected the notion that BITs create obligations binding at customary international law.[339]

e) Available evidence of State practice points to a trend away from free-standing FET clauses

182. To the extent there is evidence available, it clearly points to an absence of *opinio juris* on the part of States with regard to free-standing "fair and equitable" treatment clauses in earlier treaties.

183. As UNCTAD noted in a recent survey of BIT practice:

> The debate regarding the fair and equitable treatment clause in the context of Chapter 11 of NAFTA has shown the risks of including language in BITS providing for unqualified fair and equitable treatment of foreign investment. The wording of this clause might be broad enough to be invoked in respect of virtually any treatment of an investment, thus making the fair and equitable treatment provision among the most likely to be relied upon by an investor in order to bring a claim under the investor-State dispute settlement proceedings. It is therefore not surprising that some countries have

[338] Claimant's Reply, ¶ 416.

[339] Claimant's Reply, ¶ 415.

> begun to consider redrafting their BIT models to clarify the scope and content of the fair and equitable treatment standard.[340]

184. The dynamic interchange between a previous generation of State treaty drafting, the subsequent interpretations of arbitral tribunals, and the current wave of State revisions, simply emphasizes the caution that must be exercised in purporting to discern an emerging rule of international law.

2) Novel elements of customary MST remain unproven

185. The Claimant has failed to prove that the novel elements it alleges to prove a violation of Article 1105(1) have attained the status of customary international law.

a) Good faith is not an independent element of customary MST

186. The Claimant has in particular failed to demonstrate that "good faith" is included as a substantive obligation under customary MST.

187. As Canada noted in its Counter-Memorial, good faith as a general principle of international law dictates the manner in which an existing obligation should be fulfilled, rather than being a source of obligation in its own right.[341]

188. Decisions under the NAFTA confirm that the absence of good faith will only be considered in connection with conduct that would otherwise constitute a violation of that standard. For example, in *Waste Management II*, the tribunal's reference to "absence of good faith" is illustrated by the example of a government agencies deliberately conspiring to defeat the purposes of an investment agreement without justification.[342] Other examples the Claimant draws upon to enshrine "good faith" as part of the customary

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[340] UNCTAD, BILATERAL INVESTMENT TREATIES 1995–2006: TRENDS IN INVESTMENT RULEMAKING, UN Doc. UNCTAD/ITE/IIT/2006/5 (2007), at 32 (Annex R-295).

[341] Canada's Counter-Memorial, ¶¶ 771-775.

[342] *Waste Management, Inc. v. Mexico* (ICSID Case No. ARB(AF)/00/3) Award (30 April 2004), ¶ 138 (Annex R-300) (*Waste Management II – Award*).

MST standard go not to good faith *simpliciter* but to related conduct that could otherwise fall below customary MST.[343]

b) Transparency is not part of customary MST

189. In its Memorial, the Claimant argues that the requirement of "total transparency" set out by the *Tecmed* Tribunal is the applicable standard,[344] and has reiterated in its Reply that the *Tecmed* award "continues to be cited with approval by arbitral tribunals".[345]

190. The Claimant has failed to demonstrate that "transparency" forms part of customary MST. The Claimant has provided no evidence either of State practice, or of *opinio juris* to this effect. Accordingly, its argument to this effect must fail.

191. The Claimant is at best able to reference the comments of the *Waste Management II* tribunal, which referred not a simple "lack of transparency" but rather, a "complete lack of candour or transparency in the administrative process".[346] Rather than establishing "transparency" as an independent element of customary MST, the comment appears illustrative of other behaviour which might breach customary MST.

c) Legitimate expectations are not part of customary MST

192. The Claimant has failed to demonstrate that customary MST includes protection of an investor's "legitimate expectations" of a stable and predictable legal and business framework.

193. Rather than evidence of State practice or *opinio juris*, the Claimant has instead pointed to the *Tecmed*[347] decision and to arbitral awards relying on this award.[348]

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[343] Claimant's Reply, ¶¶ 360-363.

[344] Claimant's Memorial, ¶¶ 360-361.

[345] Claimant's Reply, ¶ 296.

[346] Claimant's Reply, ¶ 398.

[347] *Técnicas Medioambientales Tecmed, S.A. v. Mexico* (ICSID No. ARB(AF)/00/2) Award (29 May 2003) (Annex R-285) (*Tecmed – Award*).

[348] *LG&E Energy Corp. LG&E Capital Crop. and LG&E International Inv. v. Argentina* (ICSID No. ARB/02/1) Decision on Liability (3 October 2006) (Annex R-219) *(LG&E – Award), see also Sempra*

According to the Claimant, these awards establish that "fair and equitable treatment" requires a host State to respect the legitimate expectations of foreign investors in connection with their investments.[349] As Canada has noted, arbitral decisions do not themselves create customary international law. Indeed, the application of *Tecmed* has most recently been rejected in the *Glamis* decision.[350] The Tribunal did not find the case to be of guidance in its analysis of the Claimant's Article 1105 claims because the award did not define "anything other than an autonomous standard"[351] under the Spain-Mexico BIT.

194. Further, even under free-standing "fair and equitable treatment" clauses, tribunals (including *Tecmed*) have found that an essential pre-condition for establishing a legitimate expectation is the investor's reliance on a representation by the host State at the time of the investment.[352]

195. The Claimant also glosses over the relevant findings by the Members of the *ad hoc* Annulment Committee in *MTD*[353] and *CMS*.[354] Both Committees questioned legitimate expectations as an independent source of a host State's legal obligation.[355] The *CMS* tribunal held that legitimate expectations may be relevant to "fair and equitable treatment" where there is a course of dealings with the host State or guarantees have been given under the legal framework.[356] In other words, a Tribunal may evaluate the legitimate expectations of an investor in the context of a "fair and equitable treatment"

Energy International v. Argentina (ICSID No. ARB/02/15) Award (26 September 2007) (Annex R-274) *(Sempra – Award)*.

[349] Claimant's Reply, ¶ 373.

[350] *Glamis – U.S. Counter-Memorial*, ¶¶ 231-232 (Annex R-344), *see also Glamis v. United States*, United States' Rejoinder Memorial (15 March 2007) at ¶ 167 (Annex R-201) (*Glamis – U.S. Rejoinder Memorial*).

[351] *Glamis – Award*, ¶ 610 (Annex R-345)

[352] *Tecmed – Award*, ¶ 154 (Annex R-285) , *see also LG&E – Award*, ¶ 130 (Annex R-219), *see also Enron Corporation Ponderosa Assets, L.P. v. Argentine Republic* (ICSID No. ARB/01/3) Award (22 May 2007), ¶ 265 (Annex R-184).

[353] *MTD Equity Sdn. Bhd. & MTD Chile S.A. v. Chile* (ICSID No. ARB/01/7) Decision on Annulment (21 March 2007) (Annex R-239) (*MTD – Annulment*)

[354] *CMS Gas Transmission Company v. Argentine Republic* (ICSID No. ARB/01/8) Annulment Proceeding (25 September 2007) (Annex R-171) (*CMS – Annulment*).

[355] *CMS – Annulment*, ¶ 89 (Annex R-171); *MTD – Annulment*, ¶ 67 (Annex R-239).

[356] *CMS – Annulment*, ¶¶ 82, 84 (Annex R-171); *MTD – Annulment*, ¶ 69 (Annex R-239).

claim where conduct on the part of the host State has induced the investment. Essentially, the panels rejected the notion that the investor's subjective impressions could give rise to legal obligations by a State.

196. Attempts by claimants to elevate their subjective expectations to the level of a binding State obligation have not been recognized by NAFTA Tribunals. In *Waste Management II*, the Claimant's expectations were cited only as an additional factor in the context of behaviour that would otherwise qualify as "grossly unfair", "unjust" and "involv[ing] a lack of due process leading to an outcome that offends judicial propriety".[357] The Tribunal in *Glamis* evoked this criteria not in terms of simple "expectations", but of State undertakings specifically inducing the investment:

> ...a violation of Article 1105 based on the unsettling of reasonable, investment-backed expectation requires, as a threshold circumstance, at least a quasi-contractual relationship between the State and the investor, whereby the State has purposely and specifically induced the investment.[358]

197. Further, it is evident that the form of the conduct and the nature of the representations made that may give rise to legitimate expectations must meet a high standard. The *ADF* tribunal rejected the Claimant's argument that its legitimate expectations were generated by U.S. case law under an earlier statute, in the absence of specific representations by government officials.[359]

198. It follows that not every disappointment of an expectation on which a business decision is taken will be protected, even under the free-standing "fair and equitable

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[357] *Waste Management II – Award*, ¶ 98 (Annex R-300): "... the minimum standard of treatment of fair and equitable treatment is infringed by conduct attributable to the State and harmful to the claimant if the conduct is arbitrary, grossly unfair, unjust or idiosyncratic, is discriminatory and exposes the claimant to sectional or racial prejudice, or involves a lack of due process leading to an outcome which offends judicial propriety—as might be the case with a manifest failure of natural justice in judicial proceedings or a complete lack of transparency and candour in an administrative process. In applying this standard it is relevant that the treatment is in breach of representations made by the host State which were reasonably relied on by the claimant." (emphasis added)

[358] *Glamis – Award*, ¶ 766 (Annex R-345).

[359] *ADF – Award*, ¶ 189 (Annex R-143): "Moreover, any expectations that the Investor had with respect to the relevancy or applicability of the case law it cited were not created by any misleading representations made by authorized officials of the U.S. Federal Government but rather, it appears probable, by legal advice received by the Investor from private U.S. counsel."

treatment" standard. The expectation must be justifiable and reasonable based on objective criteria.[360] An investor's expectation must be reasonable based on all circumstances. In *Duke Energy v. Ecuador*, the Tribunal stated:

> The stability of the legal and business environment is directly linked to the investor's justified expectations. The Tribunal acknowledges that such expectations are an important element of fair and equitable treatment. At the same time, it is mindful of their limitations. To be protected, the investor's expectations must be legitimate and reasonable at the time when the investor makes the investment. The assessment of the reasonableness or legitimacy must take into account all circumstances, including not only the facts surrounding the investment, but also the political, socioeconomic, cultural and historical conditions prevailing in the host State. In addition, such expectations must arise from the conditions that the State offered the investor and the latter must have relied upon them when deciding to invest [footnotes omitted].[361] (emphasis added)

199. Investors must assume that the regulatory environment will change over the course of an investment. Indeed, tribunals have recognized that every investment bears a certain degree of business risk:

> ... the Tribunal must emphasize that Bilateral Investment Treaties are not insurance policies against bad business judgments. While it is probably true that there were shortcomings in the policies and practices that SODIGA and its sister entities pursued in the here relevant period in Spain, they cannot be deemed to relieve investors of the business risks inherent in any investment.[362]

200. In the absence of specific assurances or guarantees that the legal framework will not change such as through a stabilization clause, it is unreasonable for an investor to expect that the legal and regulatory environment will remain static, particularly in an

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[360] *Glamis – Award*, ¶ 621(Annex R-345): "The state may be tied to the objective expectations of that it creates in order to induce investment."

[361] *Duke Energy v. Ecuador - Award*, ¶ 340 (Annex R-362). *See also Saluka - Partial Award*, ¶¶ 304-5 (Annex R-270).

[362] *Emilio Agustín Maffezini v. Spain* (ICSID No. ARB/97/7) Award on the Merits (13 November 2000), ¶ 64 (Annex R-346). *See also Waste Management II – Award*, ¶ 177 (Annex R-300): "... it is not the function of the international law of expropriation as reflected in Article 1110 to eliminate the normal commercial risks of an foreign investor. [footnote omitted] or to place on Mexico the burden of compensating for the failure of a business plan..."

environment that is highly regulated and constantly influenced by the advances of science.[363]

3) The Claimant's argument that the content of customary MST is "contextual" also fails

201. Having failed to demonstrate the evolution of customary MST it alleges, the Claimant falls back on the implausible argument that there is no objective content to customary MST, arguing that such content is entirely dependent on context,[364] or "deeply contextual".[365] This is false. Customary MST is an objective standard. It is redundant to state that whether the standard has been violated will depend on the facts.[366] The Claimant in promoting this confusion is simply seeking another means to set aside the objective content of customary MST. This effort must fail. As stated by the *Mondev* Tribunal, it is not for the Tribunal to "apply its own idiosyncratic standard in lieu of the standard laid down in Article 1105(1)".[367]

202. The Claimant's argument to this effect in its Reply is indeed contradicted by the Claimant's original Memorial. There, the Claimant argued that Article 1105 did recognize an objective set of principles or standards of conduct.[368] Yet as Canada pointed out, the Claimant had identified the wrong set. The Claimant's argument is also internally contradicted in its Reply, where it refers to the "established principles underpinning fair and equitable treatment".[369] Here, the Claimant is suddenly able to identify a list of abstract principles, breach of which it claims would amount to a violation of Article 1105(1).[370]

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[363] *Feldman v. Mexico* (ICSID No. ARB(AF)/99/1) Award (16 December 2002), ¶112 (Annex R-187) (*Feldman – Award*). *See also Glamis – Award*, ¶ 813 (Annex R-345): "Assuming there was no quasi-contractual relationship, the Tribunal finds that a claimant cannot have a legitimate expectation that the host country will not pass legislation that will affect it."

[364] Claimant's Reply, ¶ 323.

[365] Claimant's Reply, ¶ 343.

[366] Claimant's Reply, ¶ 323.

[367] *Mondev – Award*, ¶ 120 (Annex R-238).

[368] Claimant's Memorial, ¶ 351.

[369] Claimant's Reply, ¶ 350.

[370] Claimant's Reply, ¶ 351.

203. The authorities the Claimant cites in support of its proposition are no more helpful. For example, Dolzer and von Walter's comment that one must consider the state of the law at the time of the investment and during the investment, goes to determining whether on the facts of the case, the manner in which a given law was changed has potentially led to a violation of the MST.[371] The case these authors cite, *GAMI Investments*, [372] focuses not on the flexibility of the standard, but on the facts which goes to determining whether there has been a breach of the standard.[373]

204. The logical result of the Claimant's suggestion that the *standard* (and not its application) is "purely contextual", would be to transform NAFTA Chapter 11 Tribunals into purely discretionary supra-national appellate bodies, deciding *ex aequo et bono*. This result would be contrary to the express intentions of the NAFTA States Parties, as articulated in the Note of Interpretation.

D. The Claimant has failed to prove a breach of Article 1105(1)

205. The Claimant bears the burden of proving a breach of customary MST. It has failed to do so with regard to the existing content of customary MST, but also with regard to the novel elements it incorrectly incorporates into customary MST.

206. As recognized by NAFTA tribunals under Article 1105(1), treatment by national authorities, to breach customary MST, must be such as to attract criticism at the international level. The standard of review is not that of a domestic administrative review tribunal. The Tribunal, in considering Canada's conduct, should not enquire into the correctness of the PMRA's decision. Rather, the Tribunal should consider whether the Claimant has proved that the PMRA's behaviour was "clearly improper and discreditable"; that it suffered a "gross denial of justice or manifest arbitrariness falling below international standards", an "outright and unjustified repudiation of the relevant

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[371] Claimant's Reply, ¶ 325.

[372] Claimant's Reply, ¶ 326.

[373] *GAMI Investments Inc. v. Mexico*, Award of 15 November 2004 (n 32), cited in Rudolf Dolzer and André von Walter, "Fair and Equitable Treatment – Lines of Jurisprudence on Customary Law" in F. Ortino, L. Liberti, A. Sheppard and H. Warren, eds., *Investment Treaty Law*, Vol. II (BIICL, 2008) 99 at p. 114 (Annex R-342).

regulations", or treatment that was "grossly unfair or inequitable". Nothing in the PMRA's behaviour comes remotely close to a violation of customary MST.

1) The Claimant's evidence does not demonstrate a breach of the existing customary MST

207. The Claimant in its Reply fails to articulate specifically how Canada's conduct failed to meet customary MST. Instead, the Claimant loosely suggests that Canada's behaviour "taken in its totality" constituted a breach of Article 1105(1).[374] It throws out pell-mell a scattered list of unsupported allegations, which allegedly illustrate that Canada's behaviour was "neither proper nor creditable". This primary list can be organized into two categories: a) allegations that the PMRA acted outside of the scope of its statutory authority in connection with the voluntary withdrawal of lindane use of canola and b) allegations that the PMRA failed to provide due process to the Claimant in the review of lindane.

a) Canada's actions in relation to the VWA were consistent with its statutory and regulatory mandate

208. The Claimant asserts that Canada violated Article 1105(1) by acting at the "driver" of the VWA.[375] It argues that Chemtura was "forced" by the PMRA to enter into the VWA,[376] failing which it was subjected to threats by the regulator.[377] It complains that the PMRA should have acted in such manner as to protect the Claimant's market share.[378] Chemtura suggest that it was "forced" to repeatedly sue the PMRA in federal court to ensure that the PMRA properly exercised its mandate.[379] None of these allegations have any merit:

- The VWA was negotiated between the Canadian canola industry and registrants as a reasonable business response to the threat lindane use posed to their industry. The PMRA was approached by the CCC, and not

[374] Claimant's Reply, ¶ 423.
[375] Claimant's Reply, ¶ 425.
[376] *See e.g.* Claimant's Reply, ¶ 125.
[377] Claimant's Reply, ¶ 427.
[378] Claimant's Reply, ¶ 433.
[379] Claimant's Reply, ¶¶ 204-209.

vice versa.[380] The PMRA took steps at the CCC's request, including discussions with the EPA.[381] The VWA was contingent upon the voluntary participation of registrants. The PMRA's actions to facilitate the VWA – processing of label changes;[382] permitting a phase-out;[383] and review registration of replacements[384] – were all within its powers and consistent with its mandate.

- The Claimant's own documents confirm that the withdrawal agreement would only go forward on a voluntary basis.[385] The Claimant has put forward strictly no evidence of threats. The Claimant submitted its request for partial amendment freely, in accordance with the agreement set down in November 1998.[386] Chemtura took the benefit of the VWA: a three-year phase-out of its lindane product and the registration of its lindane replacement products.[387]

- Notwithstanding the VWA, it was always clear that if the Special Review found lindane to be unsafe, all registrations would have to be withdrawn.[388] That is what happened. Yet the Claimant flatly refused to accept the results of the Special Review and refused to voluntarily withdraw its registrations.[389] In the result, its remaining registrations were cancelled, as required in these circumstances under the PMRA's governing legislation.

- The record demonstrates that the Claimant repeatedly made unreasonable recourse to the Federal Court.[390] In the end, all of the Claimant's Federal Court applications were withdrawn without a single positive finding in the Claimant's favour.[391]

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[380] Canada's Counter-Memorial, ¶ 82.

[381] Canada's Counter-Memorial, ¶¶ 98-102.

[382] Canada's Counter-Memorial, ¶¶ 183, 805.

[383] Canada's Counter-Memorial, ¶¶ 356-359, 365.

[384] Canada's Counter-Memorial, ¶¶ 234-240.

[385] Email from Bill Hallatt to Rick Turner, Gil Austin, Ed Howell, Kim Turner, Rod McLeod, Rob Dupree, Allen Moczygemba, 19 October 1998 (Exhibit TZ-34).

[386] Canada's Counter-Memorial, ¶ 183.

[387] Canada's Counter-Memorial, ¶ 558.

[388] PMRA, *Special Review Announcement SRA99-01, Special Review of Pest Control Products Containing Lindane*, 15 March 1999 (Exhibit WS-32) (*Lindane Special Review Announcement*).

[389] Canada's Counter-Memorial, ¶¶ 360-361; *see also* Letter from Rob Dupree, Crompton Canada (predecessor-in-title to Chemtura Canada) to Janet Taylor, PMRA, 28 January 2002 (Exhibit WS-62).

[390] Canada's Counter-Memorial, ¶¶ 15, 206-221. *See also* Appendix E to the Counter-Memorial: Summary of Federal Court Proceedings.

[391] Canada's Counter-Memorial, ¶¶ 373-374; *see also* Letter from Michael Phelan, Ogilvy Renault, to the Honourable Anne McLellan, Minister of Health, 3 June 2002 (Exhibit WS-69); *see also Crompton Co./Cie v. Attorney General of Canada*, Notice of Application, Federal Court File No. T-899-02, 12 June 2002 (Exhibit WS-70).

209. Rather than demonstrating the PMRA behaving "improperly", the record of the VWA shows a domestic agency seeking to act in an even-handed manner in a difficult situation that was not of its making. The VWA was fundamentally a business decision reasonably taken by industry to transition away from a chemical that was posing both an immediate and longer-term threat. The Claimant's allegations make clear that it was not seeking fair and equitable treatment, but rather preferential treatment.[392] That is not what customary MST provides.

b) The PMRA provided due process in the review of lindane

210. The Claimant's allegations relating to the PMRA's scientific review are no more compelling. The Claimant has sought to "taint" this decision with reference to the VWA. Yet it has failed to displace Canada's extensive evidence of the PMRA's good-faith scientific process, and of the due process the PMRA afforded to the Claimant.

211. Chemtura's main argument in this regard is that the deficiencies of the Special Review were confirmed by the Board of Review. The Claimant has alleged that Dr. Costa's opinion is unpersuasive in comparison to the Board of Review's independent assessment.[393] The Claimant has argued that the results of the Board of Review cannot be "shored up" by making reference to the EPA's later results, which the PMRA in any event has "mischaracterized".[394] The Claimant has alleged that the PMRA "ignored many of the Board's conclusions and engaged in what has proved to be a sham re-evaluation process".[395] Again, none of these arguments have any merit:

- The Claimant itself provided a very selective reading of the Board of Review's conclusions. It notably leaves out the crucial finding that the Special Review was within scientifically defensible parameters and that the PMRA had applied a scientifically appropriate assessment methodology.[396] Dr. Costa reviewed the Board of Review's findings and

[392] Claimant's Reply, ¶¶ 106, 433.
[393] Claimant's Reply, ¶ 430.
[394] Claimant's Reply, ¶ 431.
[395] Claimant's Reply, ¶ 428.
[396] *Board of Review Report*, ¶ 115 (Exhibit WS-71).

gave his scientific opinion that the Board provided minor scientific criticisms and reasonable suggestions that were addressed by the PMRA in the 2008 REN.[397] Dr. Costa also independently reviewed the PMRA's Special Review process and found that it too adopted a sound process and reached scientifically defensible conclusions.[398] His evidence stands unchallenged by the Claimant.

- Canada has submitted extensive evidence – including the draft REN itself[399] – that the PRMA engaged in a good-faith process to take account of the Board of Review's recommendations and to engage in a *de novo* review, including by appointing an entirely new scientific team, taking account of the Claimant's further submissions, over a four-year period.[400] Dr. Costa's unchallenged evidence has confirmed these facts.[401]

- Dr. Goldman has found that EPA – both in 2002 and 2006 – reached negative conclusions about lindane.[402] It is highly relevant that the Claimant's home regulator eventually reached the same decision as the PMRA. Documents released in this arbitration have confirmed that the Claimant sought to defend its registrations before the EPA in 2002 – 2006, and failed.[403] If Claimant had not voluntarily withdrawn its remaining registrations in 2006, these registrations would have been summarily cancelled.[404]

212. In short, the Claimant has failed to discharge its burden of demonstrating that the lindane review breached customary MST.

213. Apart from these allegations, the Claimant has otherwise put forward arguments based on standards it has failed to demonstrate form part of customary MST. Even on these elements, the Claimant has failed to prove its case on the facts.

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[397] First Expert Report of Dr. Costa, ¶¶ 116-117.

[398] First Expert Report of Dr. Costa, ¶ 158.

[399] *PMRA Re-evaluation Note REV2008*, ¶ 17 (Exhibit CC-37).

[400] Canada's Counter-Memorial, ¶ 401; *see also* First Affidavit of John Worgan, ¶ 185; Second Affidavit of John Worgan, ¶ 31.

[401] First Expert Report of Dr. Costa, ¶¶ 150-151.

[402] First Expert Report of Dr. Goldman, ¶¶ 24-29, 57-59, 87.

[403] *See generally* Second Expert Report of Dr. Goldman and exhibits attached thereto.

[404] Email from Will Cummings to Paul Thomson, 14 June 2006 (Annex R-347).

2) The Claimant's evidence does not even demonstrate a breach of the novel elements it alleges

214. Even with regard to the allegations of breach of the three novel elements of customary MST (good faith, transparency, and legitimate expectations), the Claimant fails in fact to make its case.

a) PMRA acted in good faith

215. Canada's submissions on the facts of good faith are fully set out in its Counter-Memorial.[405] Canada will here summarily recall its position only on those allegations the Claimant specifically cites in its Reply. The Claimant in general alleges that Canada failed to act in good faith by "deliberately conspiring" to eliminate lindane. The Claimant points to an alleged "shift in approach" from a general re-evaluation of lindane to a Special Review as a sign of bias.[406] It alleges that Mr. Worgan's continued participation in the review of lindane, from the Special Review to the REN, confirms that Canada never had any intention of acting in good faith and form.[407] It otherwise relies on the misleading partial quote from an email, or to bare *ad hominem* attacks on PMRA personnel.[408] None of these allegations withstand any scrutiny.

- The re-evaluation of lindane was designated as a Special Review from the beginning, [409] given international and domestic concerns about lindane. [410] A Special Review is a sub-category of re-evaluation where specific health, environment or value concerns are identified for a pest control product.[411] The review procedures applied, and the human and other resources required to conduct a Special Review are essentially the same as in a re-evaluation, particularly here where the scope of review was broad-ranging.[412] The mere fact of proceeding as a Special Review did not mean that its results were a foregone conclusion.[413] The Special Review

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[405] Canada's Counter-Memorial, ¶¶ 630-649.

[406] Claimant's Reply, ¶ 361.

[407] Claimant's Reply, ¶ 360.

[408] Claimant's Reply, ¶¶ 37, 53-54, 56, 231, 243, 250, 360, 362, 364, 437.

[409] PMRA, *Project Sheet on the Special Review of Lindane*, July 1998 (Annex R-15).

[410] Canada's Counter-Memorial, ¶¶ 279-280.

[411] Canada's Counter-Memorial, ¶ 288; *see also* First Affidavit of John Worgan, ¶¶ 28, 74.

[412] Canada's Counter-Memorial, ¶ 289.

[413] *See e.g.* First Affidavit of Cheryl Chaffey ¶ 58.

proceeded simultaneously on multiple fronts, as announced from its launch.[414]

- The Claimant's attempt to impugn the entire Special Review and REN process by reference to Mr. Worgan is wholly without credibility. Canada has put forward extensive evidence that the Special Review progressed on scientific grounds.[415] The Special Review proceeded simultaneously on multiple fronts.[416] While Mr. Worgan did peer review and sign off on the Health Evaluation Division's risk assessment in the Special Review, by the time the REN had been initiated, he had been promoted and so he had no input into the REN's scientific risk assessments.[417] Mr. Worgan was not responsible for any of the scientific risk assessments.[418]

- The Claimant makes reference to an email written by Wendy Sexsmith that mentions the "timing on the demise of lindane".[419] Ms. Sexsmith's email has been partially and misleadingly quoted: the email referred to the VWA, not to the Special Review.[420] Ms. Sexsmith had limited involvement in the Special Review, and left the PMRA in 2005.[421]

- The Claimant suggests that Ms. Sexsmith wanted to see lindane banned for "career reasons".[422] This allegation is based on no evidence other than the passing email comment of a consultant in the employ of a lindane manufacturer, whom the Claimant has not even called to testify in this matter.

- The Claimant otherwise relies on speculative hearsay evidence by witnesses not even called in this matter.[423]

216. Canada has by contrast put forward evidence of a good-faith scientific effort involving substantial resources in which impartial scientists reached a decision that was scientifically legitimate, applying agency-wide policies concerning re-evaluations.[424] The

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[414] *Lindane Special Review Announcement* (Exhibit WS-32).

[415] Canada's Counter-Memorial, ¶¶ 324-333.

[416] First Affidavit of Cheryl Chaffey, ¶ 26.

[417] Second Affidavit of John Worgan, ¶ 89.

[418] Second Affidavit of John Worgan, ¶¶ 89-90.

[419] Claimant's Reply, ¶ 361.

[420] Email from Wendy Sexsmith to Claire Franklin, Wayne Ormrod, and others, 8 January 1999 (Exhibit WS-100). This document is the same as Claimant's Reply Exhibit 55.

[421] Second Affidavit of Wendy Sexsmith, ¶¶ 1, 94, 98.

[422] Claimant's Reply, ¶ 362.

[423] *See above*, ¶¶ 23-26.

[424] Second Affidavit of Cheryl Chaffey, ¶ 6.

Board of Review could not have engaged in extensive scientific review of a process that was a mere fraud, and indeed it found that the PMRA's decision was within scientifically reasonable parameters.[425] Moreover, to the extent the Board of Review made recommendations, the PMRA implemented them through the REN process, which involved further substantial investment, including a new team and a multi-year scientific review.[426] The Claimant has completely failed to meet its burden of proving the sort of specific and clear facts one would need to make out a case of "bad faith".

b) The PMRA did not lack transparency

217. The PMRA behaved transparently. Canada's full submissions in this regard are set out in its Counter-Memorial.[427] Canada will respond here to the allegations the Claimant has specifically raised in its Reply. The Claimant suggests that the Board of Review found that the PMRA was "anything but transparent or candid".[428] The Claimant further alleges that the PMRA made no reference to occupational exposure as being part of the Special Review.[429] These allegations are wrong:

- The Claimant has failed to include pertinent sections of the Board of Review report[430] confirming the Claimant's failure to "make inquiries and consult" and to "engage PMRA in any meaningful way in respect of updates."[431]

- Occupational exposure was clearly a part of the Special Review, and was of concern. The announcement that launched the Special Review characterized it as examining a potentially broad scope of issues.[432] At a meeting between the PMRA and the Claimant in May 1999, the PMRA signalled that occupational exposure would be considered, as is normal practice in such a review.[433] In October 2000 – a year before the results of

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[425] *Board of Review Report,* ¶ 115 (Exhibit WS-71).

[426] Second Affidavit of John Worgan, ¶¶ 30-31, 93.

[427] Canada's Counter-Memorial, ¶¶ 840-851.

[428] Claimant's Reply, ¶ 399.

[429] Claimant's Reply, ¶ 266.

[430] *Board of Review Report*, ¶¶ 109-111 (Exhibit WS-71).

[431] Second Affidavit of John Worgan, ¶ 16; *see also* Canada's Counter-Memorial, ¶¶ 842-849.

[432] Canada's Counter-Memorial, ¶ 318; *see also Lindane Special Review Announcement* (Exhibit WS-32).

[433] Canada's Counter-Memorial, ¶ 319.

the Special Review were released – a meeting took place between Dr. Franklin, the Executive Director of the PMRA, and Mr. Ingulli, the Senior Vice President of Chemtura, concerning occupational exposure. Mr. Ingulli's notes clearly indicate that for the PMRA occupational exposure was "of concern."[434]

- The Board's review of the lindane Special Review itself confirmed the transparency of the PMRA's process.
- In the lindane REN that followed, implementing the Board's recommendations, the PMRA continued its dialogue with the Claimant.[435]

c) The Claimant's expectations were consistently unreasonable

218. Canada's submissions on the facts of the Claimant's alleged "legitimate expectations" are fully set out in its Counter-Memorial.[436] Canada will respond here summarily only to the arguments the Claimant specifically raised in its Reply.

219. The Claimant alleges that the PMRA breached "four key commitments", all in connection with the agreement of voluntary withdrawal of lindane use on canola: regarding the deadline for withdrawal[437]; regarding the timeline for completion of the lindane Special Review[438]; regarding treatment of other non-canola lindane registrations[439]; and regarding the review of lindane replacement products.[440]

220. All of these alleged commitments came in relation to a voluntary phase-out of a particular pesticide use, over 25 years after the Claimant had initially invested in Canada. From this point of view, the Tribunal need not even consider the specifics of the

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[434] Canada's Counter-Memorial, ¶¶ 321-323; *see also* First Affidavit of Dr. Claire Franklin ¶¶ 24-26; *see also* Minutes of meeting between Alfred Ingulli, Executive Vice President, Uniroyal Chemical (predecessor-in-title to Chemtura Canada) and Dr. Claire Franklin, Executive Director, PMRA, 4 October 2000 (Exhibit JW-23).

[435] Second Expert Report of Dr. Costa, ¶¶ 39-62; *see also* Second Affidavit of John Worgan, ¶¶ 37-83.

[436] Canada's Counter-Memorial, ¶¶ 781-834.

[437] Claimant's Reply, ¶ 379.

[438] Claimant's Reply, ¶ 379.

[439] Claimant's Reply, ¶ 379.

[440] Claimant's Reply, ¶ 379.

Claimant's allegations. In any event, consideration of each of these alleged "conditions" confirms that they are misstated and reflect the Claimant's unreasonable expectations.

(i) The July 1, 2001 deadline

221. The Claimant alleges that it only understood the July 1, 2001 deadline to apply to the sale of its lindane product, and not to the use of that product. It suggests the PMRA made an "abrupt about face" in this regard.[441] The Claimant further argues that "confusion and fear" spread through the canola industry as a result of the PMRA's alleged threats of fines, to enforce the July 1, 2001 deadline.[442] These allegations are entirely unsupported by the facts:

- July 1, 2001 was repeatedly confirmed in connection with the VWA as the end-date for use as well as sales of lindane products on canola.[443] The Claimant acknowledged as such in its contemporary documents.[444]
- The announced deadline was consistently referenced by the CCC and the PMRA.[445] The CCC confirmed that they had advised their membership of this date since 1999.[446]
- The Claimant has presented no evidence of PMRA "threats" or of any "fear" among growers in this regard, who to the contrary knew that penalties might be imposed only in the most severe cases of stockpiling.[447]
- The PMRA engaged in no lindane compliance activities until 2001.[448] In 2001, its compliance activities focussed on determining how much treated

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[441] Claimant's Reply, ¶ 386.

[442] Claimant's Reply, ¶ 386.

[443] Canada's Counter-Memorial, ¶¶ 91, 122-123, 169, 803-804; *see also* First Affidavit of JoAnne Buth, ¶¶ 41-42.

[444] Email string between Alfred Ingulli, Bill Hallatt, Rob Dupree, C.P. Yip, Rick Turner and other Chemtura group employees, 5-8 February 1999 (Exhibit WS-92);

[445] Email string between Alfred Ingulli, Bill Hallatt, Rob Dupree, C.P. Yip, Rick Turner and other Chemtura group employees, 5-8 February 1999 (Exhibit WS-92); *see also* Letter from Gene Dextrase, President, CCGA and Bruce Dalgarno, Past President, CCGA, to Dr. Claire Franklin, Executive Director, PMRA, 26 November 1998 (Exhibit JB-9); Letter from Claire Franklin, Executive Director, PMRA, to Gene Dextrase, President, CCGA, and Bruce Dalgarno, Past President, CCGA, 9 February 1999 (Exhibit WS-25); Letter from Dr. Claire Franklin, Executive Director, PMRA, to Alfred Ingulli, Executive Vice President, Uniroyal Chemical (predecessor-in-title of Chemtura Canada), 23 December 1999 (Exhibit WS-48).

[446] First Affidavit of JoAnne Buth, ¶ 64.

[447] Canada's Counter-Memorial, ¶¶ 204, 724; *see also* First Affidavit of JoAnne Buth ¶¶ 63, 68.

seed was left over.[449] PMRA, in the end, allowed left-over treated seed to be used in the 2002 season, in consultation with industry (including the Claimant).[450]

222. In sum, the Claimant has misstated the evidence regarding both the meaning of the lindane phase-out date, and the PMRA's actions in connection with that agreed date.

(ii) The timing for completion of the Special Review

223. The Claimant also had unreasonable expectations regarding the timing for completion of the Special Review. The Claimant alleges that PMRA failed to respect the "condition" of completing its scientific review of lindane by the end of 2000.[451] These allegations reflect Chemtura's unreasonable expectations, and in any event do not found a breach of customary MST:

- The Special Review was a process undertaken independently of the VWA. PMRA repeatedly clarified that the end of December 2000 was a target for completing its review of lindane.[452]
- The late 2000 target-date was tied to the PMRA's collaboration with EPA in its Special Review.[453] Since the EPA's pace of review slowed, this collaboration led to a slight delay in the PMRA's result,[454] as the Claimant itself acknowledged.[455]
- The PMRA collaborated with the EPA as planned.[456] It was unreasonable on the part of the Claimant to expect that two agencies would reach the same result: each agency applied its own unique policies and safety standards to the data under review.[457] There was no commitment made to

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[448] Canada's Counter-Memorial, ¶ 810.

[449] Canada's Counter-Memorial, ¶¶ 205, 981.

[450] Canada's Counter-Memorial, ¶¶ 230-233.

[451] Claimant's Reply, ¶ 387.

[452] Canada's Counter-Memorial, ¶ 334; *see also* First Affidavit of John Worgan, ¶ 116; *see also* First Affidavit of Wendy Sexsmith, ¶ 133.

[453] Claimant's Reply, ¶ 387.

[454] Canada's Counter-Memorial, ¶¶ 335-336, 725, 817.

[455] Letter from Wendy Sexsmith, PMRA to Rob Dupree, Crompton Canada (predecessor-in-title to Chemtura Canada), 29 May 2001 (Exhibit WS-53).

[456] Canada's Counter-Memorial, ¶¶ 312-314.

[457] Canada's Counter-Memorial, ¶ 314.

reaching either the same outcome or a positive outcome through the review.[458]

- The slight delay in completing the Special Review made no difference to its outcome. The Claimant unreasonably assumes that had the PMRA reached its review any earlier, the decision would have been positive.

224. Taken together, the Claimant's alleged expectations regarding the Special Review were unfounded and unreasonable. The facts show no breach of customary MST.

(iii) Treatment of remaining lindane use registrations

225. The Claimant alleges that, under the VWA, it was "promised" continued registration of its non-canola lindane products, and that the PRMA "committed" to a "gradual phase out" or these remaining product registrations.[459] The Claimant otherwise alleges that lindane registrations were suspended "on the basis of a deeply flawed review".[460] It suggests that it was not given the chance to engage in a "gradual phase out of its remaining lindane product registrations", and that the PMRA suspended them "peremptorily".[461] The Claimant's allegations are unreasonable, and otherwise unfounded in fact:

- The PMRA made no commitment under the VWA that all other registrations were to be maintained, regardless of the results of the Special Review.[462] The Special Review had announced that all registrations were subject to review.[463] This was understood by all VWA stakeholders.[464]

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[458] Second Affidavit of Cheryl Chaffey, ¶ 43.

[459] Claimant's Reply, ¶¶ 390-391.

[460] Claimant's Reply, ¶ 391.

[461] Claimant's Reply, ¶ 391.

[462] Minutes of conference call, 22 October 1999 (Exhibit WS-87).

[463] *Lindane Special Review Announcement* (Exhibit WS-32).

[464] Canada's Counter-Memorial, ¶ 185; *see also* Letter from Roy Lee Carter, Cereals and Oilseed Lead, Zeneca [Syngenta], to Dr. Claire Franklin, Executive Director, PMRA, 29 October 1999 (Exhibit WS-43); *see also* Letter from John Kelly, Rhône-Poulenc Canada Inc. [Aventis] to Wendy Sexsmith, PMRA, 1 November 1999 (Exhibit WS-44); *see also* Letter from Don Wilkinson, Manager, Regulatory Affairs, IPCO, to Roy Lidstone, PMRA, 1 November 1999 (Exhibit WS-45).

- The Special Review was a legitimate scientific process and the decisions that emerged from in it were taken on basis of valid scientific considerations.[465]

- The Claimant refused to accept the results of the Special Review, and refused to voluntarily withdrawal its lindane registrations.[466] This left Canada with no choice but to cancel the Claimant's registrations under the governing legislation.[467]

226. The alleged "conditions" relating to the Special Review therefore fail.

(iv) Replacement product review

227. The Claimant also alleges that the PMRA failed in its commitment to expedite the "review and registration" of its lindane replacement product.[468] It suggests that it reasonably expected the PMRA to grant it preferential treatment vis-à-vis other registrants. Again, its position has no merit:

- The PMRA made a limited commitment to give priority to the first three products submitted to it. The PMRA did indeed register the Claimant's two submitted replacement products by October 1999, a year before those of the Claimant's competitors.[469] A public regulator cannot allow one party to "jump the queue" indefinitely.[470]

- The Claimant unreasonably expected that the PMRA would conduct itself in such as manner as to maintain the Claimant's market share.[471]

- The Claimant entirely fails to accept responsibility for fact that it submitted its all-in-one submission two years late;[472] and for evidence that

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[465] Canada's Counter-Memorial, ¶ 632; *see also* First Affidavit of Affidavit of Cheryl Chaffey ¶ 58.

[466] Letter from Rob Dupree, Manager, Product Development & Regulatory Affairs, Crompton Canada (predecessor-in-title to Chemtura Canada) to Janet Taylor, Manager, Registered Product Evaluation PMRA, 28 January 2002 (Exhibit WS-62); *see also* Canada's Counter-Memorial, ¶¶ 362-363.

[467] Canada's Counter-Memorial, ¶¶ 364-366.

[468] Claimant's Reply, ¶ 379.

[469] Canada's Counter-Memorial, ¶¶ 252, 723, 984.

[470] Affidavit of Wendy Sexsmith ¶¶ 44, 64; *see also* Letter from Claire Franklin, Executive Director, PMRA, to Gene Dextrase, President, CCGA, and Bruce Dalgarno, Past President, CCGA, 9 February 1999 (Exhibit WS-25).

[471] Claimant's Reply, ¶ 102.

[472] Canada's Counter-Memorial, ¶¶ 260-262.

> even its all-in-one was an inferior product,[473] out-marketed by its competitors.[474] The Claimant is unreasonably seeking to blame the PMRA for its own failings.[475]

228. Again, the Claimant's allegations regarding replacement products provide no grounding for its claim.

229. Taken as a whole, the Claimant's general framework of "conditions" confirm its deeply unreasonable attitude vis-à-vis the public regulator. In reality, these were not "conditions" but rather a concerted attempt to extract preferential treatment, failing which the Claimant threatened to undermine an agreement it had reached with its own clients for the good of the entire industry. The PMRA extended the same undertakings to all four registrants, and substantially lived up to these undertakings. The Claimant's alleged "expectations" were far from reasonable; they did nothing to "induce" its investment; they cannot form the basis of any legitimate compensation under customary MST or at all.

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[473] First Affidavit of JoAnne Buth, ¶¶ 31, 59; Second Affidavit of JoAnne Buth, ¶ 22; *see also* Canada's Counter-Memorial, ¶ 931.

[474] First Affidavit of JoAnne Buth, ¶¶ 58, 62.

[475] Second Affidavit of JoAnne Buth, ¶ 22.

V. THERE IS NO VIOLATION OF NAFTA ARTICLE 1103

A. Summary of Canada's position

230. In its Reply, the Claimant argues that:

- There is no difference between customary MST and the international law standard of fair and equitable treatment, so the FTC Note of Interpretation has no practical effect;
- In the alternative, the Claimant argues that the content of customary MST has evolved to meet the stand alone fair and equitable treatment standard;
- In the further alternative, the Claimant argues that, by virtue of the most favoured nation obligation, it should be entitled to import the fair and equitable standard found in Canada's post NAFTA investment protection agreements (which are not limited by the FTC Note).

231. All these arguments are intended to render meaningless the FTC Note and to circumvent the clear intention of the NAFTA Parties. In addition to not being properly before the Tribunal,[476] the Claimant's Article 1103 arguments should be rejected because:

- The Claimant's interpretation ignores the text of Article 1103: Chemtura was treated exactly the same way as all other registrants Canadian or foreign. No national from a third country received better treatment.
- The standard of treatment in Canada's post NAFTA investment agreements is not different from the NAFTA standard.
- Irrespective of the applicable fair and equitable standard that the tribunal adopts, Chemtura received treatment that was fair and equitable.

B. Chemtura was treated exactly the same way as all other registrants Canadian or foreign

232. Both parties agree that NAFTA Article 1103 sets out the conditions for its application. Yet the Claimant's interpretation sets aside the text of Article 1103 and instead relies on a broad purposive interpretation of MFN clauses generally, on decisions of non-NAFTA tribunals interpreting differently worded MFN provisions, and on the *Draft Articles on Most-Favoured-Nation Clauses* to support its position.

[476] Canada's Counter-Memorial, ¶ 853-858.

233. The general purpose of MFN provisions cannot serve to get around the specific terms of the MFN provision agreed to by the NAFTA Parties. For the same reason, decisions of non-NAFTA Tribunals which apply differently worded MFN provisions should be considered with caution as the application of the different terms in the NAFTA may lead to a different result. This is also true of the Claimant's reliance on the Draft Articles on MFN: the Draft Articles are not law and in fact as the Claimant itself recognizes the ILC Working Group is currently considering revisiting them.

234. Moreover, contrary to what the Claimant asserts, the extent to which MFN provisions in investment agreements can import differently worded standards from a different treaty is far from settled. Different tribunals have come to different conclusions on that point. Nevertheless, tribunals have recognized that the language of the MFN provision at issue defines the scope of the obligation.

235. The Claimant refers to the decision in *Renta 4* while suggesting that the refusal by the majority to use the MFN provision is of minimal importance because it was based on the particular provisions in the relevant treaty (the Russia-Spain BIT).[477] But that is precisely the point and what the Claimant seeks to avoid: the terms of the MFN provision at issue are governing.[478]

236. Article 1103 calls for a comparison of treatment accorded in like circumstances to investor or investments of another Party or a non-Party. The MFN provision in NAFTA Chapter 11 is a comparative standard just like the national treatment obligation. It is a provision concerned with providing a level playing field for all foreign investors in like circumstances by providing them no less favourable treatment. The Claimant's arguments and its analysis of Article 1103 do not address the requirement that the comparison be to treatment accorded in like circumstances *to investor or investments of another Party or a non-Party*. In setting out the elements of Article 1103, the Claimant

[477] Claimant's Reply, ¶ 481.

[478] The tribunal in that case considered carefully the BIT text which included MFN language in conjunction with the provision providing for fair and equitable treatment of investors to determine whether it could serve to enlarge the tribunal's competence. *See Renta 4 S.V.S.A., et al v. The Russian Federation* (Arbitration Institute of the Stockholm Chamber of Commerce) Award on Objections (20 March 2009), ¶¶ 86-120 (Annex R-348).

does not even make mention of these terms, which then leads it to consider the "treatment" and the "like circumstances" requirement without their proper context.

237. The Claimant dismisses the comparison required on the basis of the decision in *US Trucking*.[479] That case did not address the issue of whether Article 1103 can serve to import a different treaty standard. Nor did it suggest that a consideration of whether there was more favourable treatment in like circumstances was not necessary. In that case, the panel was considering the effect of a regulatory prohibition on Mexican investments in trucking. In its analysis of Articles 1102 and 1103, the panel determined that the blanket prohibition did in fact amount to less favourable treatment of Mexican investors in like circumstances as compared to U.S. or Canadian investors that were not subject to such a blanket prohibition.

238. Further, nothing in the terms of Article 1103 suggests that it can be invoked to import a standard provided for in a different treaty that may potentially or theoretically result in a more favourable treatment of an investor from another Party or of a non-Party. The provision is concerned with "treatment" accorded to investors. In addition, the requirement that the treatment be accorded "in like circumstances" must be given meaning and take into account the circumstances relevant to the treatment at issue.

239. NAFTA's Annex IV (Schedule of Canada) contains exceptions to Article 1103, amongst others, for treatment accorded under BITs that were in force or signed prior to NAFTA's entry into force. The Claimant suggests that this is evidence that the more favourable treatment contemplated under Article 1103 can be found in another BIT. The language of Annex IV however does not support this conclusion: it simply takes an exception for treatment given, for example by way of regulatory measures, under a provision of a pre-NAFTA BIT. The exception does not open the door to "standard shopping" in all BITs post-NAFTA. Different language in another treaty with respect to the applicable standard does not necessarily equate more favourable treatment. In other words, the determination of whether Canada accords "more favourable treatment" under

[479] Claimant's Reply, ¶ 492ff.

another treaty to investors of a non-Party as compared to a NAFTA investor must be done on a case by case basis. There must be evidence of actual, not merely hypothetical, more favourable treatment. This does not render the MFN provision meaningless as the Claimant suggests. The NAFTA MFN provision does not simply allow the investor to choose the language it prefers from Canada's various investment agreements.

240. The Claimant's MFN case relies on a purely theoretical argument that there exists a different more favourable standard in Canada's post-NAFTA investment agreements that would apply in like circumstances to certain other foreign investors. In reality, no national from a third country received better treatment. In the context of the lindane de-registration, all lindane manufacturers were treated alike.

241. According to the Claimant, it is sufficient "that like circumstances may exist under a third treaty" and that "they may reasonably be contemplated to exist…in a manner capable of triggering the benefit of a third treaty".[480] Not only is there no support for this proposition, but the Claimant does not even meet its own burden. There is no evidence that Canada would have treated any differently investors from a third country with which Canada has an investment agreement providing for "fair and equitable treatment in accordance with international law".

242. The *Rumeli Telekon, S.A.* case cited by the Claimant does not suggest otherwise. It should be noted that in that case, the BIT between Turkey and the Republic of Kazakhstan did not contain an obligation to provide fair and equitable treatment but contained an MFN provision. Further, the Respondent did not contest that by virtue of the MFN provision, the investor could claim the benefit of fair and equitable treatment provided for in its other BITs.[481] This is very different from the situation here.

243. With respect to the application of Article 1103 to this case, the question is whether the investor has demonstrated that, in the context of the lindane de-registration

[480] Claimant's Reply, ¶ 503.

[481] *Rumeli Telekom A.S. and Telsim Mobil Telekomikasyon Hizmetleri A.S. v. Republic of Kazakhstan* (ICSID Case No. ARB/05/16) Award (29 July 2008), ¶ 591 (Annex R-349).

process, PMRA has treated more favourably an investor from a country with which Canada has a post-NAFTA investment agreement. There is no such evidence here.

C. In any event, the fair and equitable standard in Canada's post-NAFTA investment agreements is not different from the customary MST owed to U.S. Investors under NAFTA

244. No NAFTA case to date has accepted the Claimant's interpretation of Article 1103 as allowing it to bring in a different fair and equitable standard from the one set out in Article 1105.

245. In any event, the standard of treatment in Canada's post-NAFTA investment agreements does not contain a different standard than that of the NAFTA. As in the NAFTA, the proper standard to apply under Canada's post-NAFTA investment agreements is the fair and equitable standard at customary international law. The post NAFTA investment agreements to which the Claimant refers[482] contain practically identical language as the NAFTA.[483] Contrary to the Claimant's assertion that they contain a "free-standing fair and equitable standard", the reference they all contain to "international law" distinguishes them from the autonomous standards found in certain BITs.

246. For example in the *Canada-Costa Rica Agreement on the promotion and protection of investments*, the Parties have committed to providing their respective investors "fair and equitable treatment in accordance with principles of international law". This is essentially the same language as NAFTA Article 1105 which requires that each Party shall accord to investments of investors of another Party "treatment in accordance with international law, including fair and equitable treatment..." Both Canada and the United States have referred to contemporaneous documents that evidence their understanding of this language as referring to customary international law.[484]

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[482] The Claimant refers to 16 Canadian investment agreements entered into between October 1994 and May 1999: Claimant's Memorial, ¶¶ 451, 487-494.

[484] Canada's Counter-Memorial, ¶¶ 894-895, 900.

247. The fact that the FTC Note of Interpretation was issued after the 16 Canadian BITs on which the Claimant relies is not meaningful: the FTC Note of Interpretation clarified that by this language the NAFTA Parties *always intended to refer to customary international law*. While a similar clarification was not issued under each of Canada's post-NAFTA investment agreements, there is no reason why Canada's interpretation of the same terms would be different in its investment agreements. And there is no evidence that any of the other Parties to Canada's investment agreements had a different understanding of these terms than that of Canada.

248. It is true, as the Claimant points out, that Canada has sought to explicitly reference customary international law in its most recent agreements such as the *Canada-Peru Foreign Investment Protection Agreement*; but this does not reflect a different intention or standard. Rather, it was to confirm explicitly the content of the standard in light of arguments being advanced by investors.

249. In order to establish that the term "fair and equitable" in Canada's post-NAFTA BITs does not refer to customary MST, the Claimant relies on decisions that interpret stand-alone fair and equitable standards (*i.e.* that do not have a reference to the standard at international law). Notably, the Claimant quotes at length from the *National Grid* tribunal's conclusion on the content of the fair and equitable standard; yet, the provision of the BIT between Argentina and the United Kingdom at issue contained no reference to international law.[485] Therefore, this decision and others cited by the Claimant that were interpreting different treaty language are of no relevance to the interpretation of Canada's agreements.

D. Irrespective of the applicable fair and equitable standard that the tribunal adopts, Chemtura received treatment that was fair and equitable

250. Canada has not provided for a fair and equitable standard in its post-NAFTA BITs that is different from the one found in NAFTA: they all point to customary MST. In any

[485] Claimant's Reply, ¶ 522 ff. The relevant provision of the BIT is cited in fn. 469 of the Claimant's Reply.

event, with respect to the circumstances at issue and the facts of the case, the Claimant has not demonstrated that any additional obligations would be owed to the Claimant under the fair and equitable standard at international law. But even if the fair and equitable standard at international law included some of the principles relied upon by the Claimant such as transparency, good faith, and legitimate expectations, none of Canada's actions would be in breach of this standard. Chemtura was treated in a fair and equitable way in the lindane de-registration process. Ultimately, the Claimant's Article 1103 arguments do not assist it in establishing a breach of Canada's obligations.

VI. THERE IS NO VIOLATION OF NAFTA ARTICLE 1110

A. Summary of Canada's position

251. This Tribunal should reject Chemtura's expropriation arguments for the following reasons:

- The Claimant's lindane seed treatment business as a single product line does not qualify as an investment under Article 1139 and hence cannot be expropriated. This Tribunal should instead consider Crompton Canada as a whole (which Chemtura itself declares as its investment) to determine whether or not the Claimant's investment was expropriated.

- The Claimant has not been substantially deprived of its investment. Notably, Chemtura does not provide any facts or analysis at all, let alone facts or analysis that would allow this Tribunal to make a finding of substantial deprivation. To the contrary, the available evidence confirms that the lindane seed treatment business allegedly taken by Canada represents only a tiny part of Crompton Canada (less than the 10% that constitutes Chemtura's crop protection business).

- Because the Claimant has failed to establish that it has suffered a substantial deprivation in this case, this Tribunal does not need to consider the police powers doctrine.

- If, however, this Tribunal does find that there was a substantial deprivation here, then any loss suffered by Chemtura was the result of measures that constituted a valid exercise of Canada's police power and as such do not give rise to a compensation claim under Article 1110. Chemtura has mischaracterized Canada's police powers argument – Canada's expropriation defence does not "entirely rest" on the police powers doctrine; nor does Canada argue that the police powers doctrine is absolute. It argues precisely the opposite and provides uncontroverted evidence that the PMRA's measures: i) were not excessive; ii) were not arbitrary; iii) were not discriminatory; and iv) were adopted in good faith.

- The Claimant has not rebutted Canada's argument that Chemtura consented to the VWA and therefore cannot now claim that an expropriation resulted from that Agreement.

B. Chemtura should not be permitted to parse its investment merely to further its expropriation claim

252. In its Reply, the Claimant correctly states that "Canada admits that the Investor has made an investment that falls squarely within the terms of Article 1139 of NAFTA"

because Canada accepts that Crompton Canada qualifies as an "enterprise" under Article 1139(a).[486]

253. Unfortunately, the clarity ends there. In its Reply, Chemtura exhibits the same confusion that it did in its Memorial[487] over what actually constitutes its investment. Chemtura describes its investment in two main ways:

i) As the whole corporation, Crompton Canada[488]:

- "In its Memorial, the Claimant expressly identifies "Crompton Canada", a wholly-owned Canadian subsidiary, as the investment at issue in this NAFTA arbitration".[489]

ii) As Chemtura's lindane seed treatment product line:

- "Canada has expropriated the Investor's investment by implementing measures which had the effect of depriving it of the whole of the reasonably to be expected economic benefit of its lindane seed treatment investment in Canada.[490]
- "...the evidentiary record demonstrates that Canada did not, at the relevant time, have the required scientific data to even camouflage its expropriatory actions, *i.e.* the suspension of Crompton Canada's lindane product registrations.[491]
- "The Investor's ... losses were directly caused by the actions of Canada in ... (b) taking away the ability of Chemtura to sell lindane seed treatments..."[492]
- "The losses claimed by Chemtura in this case are its losses incurred by the eradication of its lindane seed treatment business and the income from it that it would have expected to continue to receive but for the action of Canada."[493]

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[486] Claimant's Reply, ¶ 538.

[487] Claimant's Memorial, ¶¶ 34, 298, 304, 487, 495, 518, 519, 520, 524.

[488] "Crompton Canada" and "Chemtura" are used interchangeably here.

[489] Claimant's Reply, ¶ 537.

[490] Claimant's Reply, ¶ 535.

[491] Claimant's Reply, ¶ 576.

[492] Claimant's Reply, ¶ 587.

[493] Claimant's Reply, ¶ 664.

254. Elsewhere it is not clear what "its investment" or "this investment" refers to. For example, where it states:

> These actions resulted in an improper deprivation of the Investor's use and enjoyment of its investment, the Investor having been substantially and permanently deprived of this investment, initially as it related to its lindane products for canola as of July 1, 2001, and ultimately as it related to its entire lindane products seed treatment business in Canada as of February 21, 2002.[494]

255. Confusion aside, Canada rejects the Claimant's argument that a single product line, *i.e.* its "lindane seed treatment business", can be expropriated. Rather, the Tribunal should consider Chemtura as a whole – the investment under Article 1139 – to determine whether an expropriation took place.[495]

256. Strikingly, Chemtura does not offer any authority for the proposition that a mere product line of a business can be expropriated under NAFTA. Moreover, its attempt to recast the findings in the *Feldman, Pope & Talbot,* and *Methanex* cases is unconvincing. In *Feldman* and *Pope & Talbot*, the respective tribunals considered the subject enterprises as a whole to determine whether or not an expropriation had occurred. Indeed, in *Feldman*, the tribunal did not consider whether a single product line (cigarettes) had been expropriated but instead concluded that, because the Claimant was "free to pursue other continuing lines of business activity, such as exporting alcoholic beverages or photographic supplies," the impugned government measure "does not amount to Claimant's deprivation of control of his company".[496] Similarly, although the *Pope & Talbot* tribunal concluded that market access constituted a property interest worthy of 1110 protection,[497] it nevertheless considered the investment as a whole when it concluded that no expropriation had occurred.[498]

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[494] Claimant's Reply, ¶ 581.

[495] Canada's Counter-Memorial, ¶¶ 505 to 529.

[496] *Feldman – Award*, ¶ 142 (Annex R-187).

[497] *Pope & Talbot, Inc v. Canada* (UNCITRAL) Interim Award (26 June 2000), ¶ 96 (Annex R-259) (*Pope & Talbot – Interim Award*). Canada, incidentally, disagrees with the tribunal's finding on that point.

[498] *Pope & Talbot – Interim Award*, ¶ 102 (Annex R-259).

257. Also, contrary to what Chemtura suggests in its Reply,[499] the *Methanex* tribunal did not cite *Pope & Talbot* with approval but instead distanced itself from the *Pope & Talbot* finding that market access was a property interest capable of being expropriated. Indeed, it concluded that, while goodwill and market share "may figure in valuation … it is difficult to see how they might stand alone, in a case like the one before the Tribunal".[500]

258. The above cases demonstrate that, contrary to what the Claimant alleges in its Reply,[501] there is nothing "novel" about Canada's whole enterprise argument as it applies to this case.

259. In the same vein, Chemtura's attempts to distinguish the *Eastern Sugar* and *Joy Mining* cases are unconvincing. In the case of *Eastern Sugar*, though the case did not turn on expropriation, the tribunal nevertheless concluded that the expropriation article of the relevant "BIT is applicable only if there was a substantial deprivation of the entire investment or a substantial part of the investment".[502] (emphasis added.)

260. Turning to the case of *Joy Mining*, Chemtura correctly quotes that decision for the proposition that an investment "should have a certain duration, a regularity of profit and return, an element of risk, a substantial commitment and it should constitute a significant contribution to the Host State's development".[503] That proposition, however, takes nothing away from what the tribunal also states in the very next paragraph – and which Canada quotes in its Counter-Memorial in support of its "whole enterprise" approach – which is "that a given element of a complex operation should not be examined in

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[499] Claimant's Reply, ¶ 543.

[500] Methanex v. United States, (UNCITRAL) Award of the Tribunal on Jurisdiction and the Merits (3 August 2005), Part IV, Chapter D at 7-8, ¶ 17 (Annex R-235) (*Methanex – Award*).

[501] Claimant's Reply, ¶ 545.

[502] *Eastern Sugar B.V. v. Czech Republic* (UNCITRAL), Partial Award (27 March 2007), ¶ 210 (Annex R-179).

[503] *Joy Mining v. Egypt* (ICSID Case No. ARB/03/11) Award on Jurisdiction (6 August 2004), ¶ 53 (Annex R-211) (*Joy Mining – Award on Jurisdiction*).

isolation because what matters is to assess the operation globally or as a whole".[504] (Emphasis added)

261. Consequently, contrary to Chemtura's claim that *Eastern Sugar* and *Joy Mining* "are in no way similar",[505] the decisions are indeed similar in the sense that both tribunals concluded that, in an expropriation determination, the investment as a whole must be examined, not a mere part of it.[506]

262. As Canada argued in its Counter-Memorial, it therefore follows that,

> [i]f the Claimant was permitted to redefine mere indicia of its investment's value as stand-alone investments whenever it suited its purpose, the result would be a moving target that could be reduced to fit the parameters of the substantial deprivation test in all cases. As a result, the question of whether there has been a substantial deprivation would always be answered in the affirmative. In turn, this would render the substantial deprivation analysis meaningless and would contradict the established practice of tribunals determining whether there has been an expropriation.[507]

C. Chemtura has not been substantially deprived of its investment

263. Chemtura does not argue anything new in its Reply as to the test of substantial deprivation. Its main argument appears to be that this Tribunal should consider a number of factors in determining whether an indirect expropriation occurred and that the determination should be made on a case-by-case basis.[508] Canada does not disagree with these general propositions.

264. What is conspicuously absent from the substantial deprivation section of Chemtura's Reply, however, is any mention of the evidentiary "elephant in the room": there is not a single reference to just how much (or how little) of Crompton Canada was deprived as a result of the PMRA's decision to de-register lindane. This absence is

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[504] *Joy Mining – Award on Jurisdiction*, ¶ 54 (Annex R-211).

[505] Claimant's Reply, ¶ 547.

[506] *Eastern Sugar B.V. v. Czech Republic* (UNCITRAL), Partial Award (27 March 2007), ¶ 210 (Annex R-179); *Joy Mining – Award on Jurisdiction*, ¶ 54 (Annex R-211).

[507] Canada's Counter-Memorial, ¶ 556.

[508] Claimant's Reply, ¶¶ 556 & 557.

particularly curious considering the fact that Chemtura has the burden of proof to establish that it has suffered a substantial deprivation.

265. The reason for that evidentiary absence is strategic: the facts clearly demonstrate that only a very small portion of Crompton Canada was affected by the de-registration of lindane. In fact, earlier in its Reply, Chemtura itself admits that its "crop protection business was at all relevant times approximately 10% of sales of the company".[509] That admission is consistent with the evidence that Canada referred to in its Counter-Memorial:

> By the Claimant's own evidence, it is clear that lindane product sales represented only a small portion of Chemtura Canada's overall business. Indeed, it is significant that the Claimant's own damages expert, LECG, concluded in its report that, "prior to the [PMRA's] measures [Chemtura]'s lindane products represented a small share of its overall business". The report explains that, "[p]rior to the measures in 1999, lindane based products represented around [redacted] percent of [Chemtura]'s overall Canadian business measured by output (pounds) and approximately [redacted] percent measured by net sales". Indeed, LECG rejected a book value approach to valuation in part because "[Chemtura]'s lindane products represented a small share of its overall business..."[510]

266. Similarly, Navigant Consulting reaffirmed this point in its second expert report:

> Indeed, after being provided with further financial statements for the crop protection division and the lindane product lines by Claimant, we were able to confirm our previous conclusions. As illustrated in Table 2 below, Chemtura Canada's financial statements reveal that net sales of lindane-based products represented approximately 10 percent of Crompton Canada's sales.

[509] Claimant's Reply, ¶ 95.

[510] Canada's Counter-Memorial, ¶ 557.

Table 2 - Total Lindane Canola Sales as a Percentage of Crompton Canada Net Sales[511]

		(in 000s US$)						
		1995	1996	1997	1998	1999	2000	2001
A	Total Lindane Canola Sales (1)	$ 14,635	$ 11,513	$ 13,924	N/A	$ 15,271	$ 10,428	$ 4,171
B	Total Crompton Canada Net Sales (2)	$ 126,499	$ 134,397	$ 141,282	$ 141,856	$ 135,172	$ 146,226	$ 140,722
C = A / B	Percentage of Crompton Canada Net Sales	11.6%	8.6%	9.9%	N/A	11.3%	7.1%	3.0%

Source and Notes
1: LECG Document #16 - Crompton's Lindane Canola FFSS 1996-01.xls: Lindane Canola - Summary, Document Request #22 p. 9
2: LECG Document #15 - Crompton Canada's FFSS 1996-07.xls: Businesses, Document Request #21 pp. 1-2

267. The one place in its expropriation argument where Chemtura does discuss the size of the portion of its business that was affected by the PMRA's measures is in its police powers section. In its Reply, Chemtura complains that:

> whilst Canada attempts to belittle the impact of its improper actions by suggesting that lindane product sales allegedly represented only a small portion of the Crompton Canada's overall business, it must be emphasized that Chemtura held the lion's share of the market for lindane based on canola seed treatments in Canada, approximately 70%, with 30% shared between three other registrants.[512]

268. This point should be exposed for the red herring that it is. The size of Chemtura's market share is irrelevant to a substantial deprivation analysis. What matters is the size of the portion of the investment that was negatively affected by the impugned measure, not the size of the market that the investment had control over at the material time.

269. The most that Chemtura could complain of in this case (if it were established) is a loss of profits for a very small portion of its investment. Moreover, as Canada pointed out in its Counter-Memorial, Chemtura was free to introduce replacement products into the market.[513] More generally, Canada has highlighted in its Counter-Memorial evidence that the Claimant at all times had effective control of its investment, managed its operations without government control or interference, and remained profitable.[514]

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[511] Second Navigant Report, ¶ 128.

[512] Claimant's Reply, ¶ 581.

[513] Canada's Counter-Memorial, ¶¶ 241-252.

[514] Canada's Counter-Memorial, ¶¶ 554-564.

270. The Claimant's attempts to downplay the importance of these facts are unavailing. In particular, Chemtura has mischaracterised Canada's position on the role of ownership and reduced the key role played by control in a case such as the present. On the issue of ownership, Chemtura cites *Middle East Cement Shipping and Handling Co. S.A. v. Arab Republic of Egypt*[515] to claim that it "puts to rest Canada's contention that because the Investor has not lost actual ownership of its investment, the circumstances at issue cannot rise to the level of an expropriation".[516] Canada has not made that argument, as it would be plainly wrong in law. When referring to ownership, Canada did so in the context of the classic attributes of property (see references to rights of use, enjoyment and disposal).[517]

271. Turning to the relative importance of control of the relevant investment, Chemtura claims that, "whilst the degree of control retained in the investment following an alleged indirect expropriation may be *a* factor that a tribunal could consider in determining whether a government act (or acts) rises to the level of a treaty breach, it is not the exclusive or even a necessary factor in this determination".[518]

272. On the facts, Chemtura is clearly trying to minimize the significance of control because it knows that the PMRA's de-registration of lindane did not interfere with Chemtura's control of its investment.[519] On the law, while Canada agrees that control is not the "exclusive" factor in an expropriation determination, it is often a key factor in a substantial deprivation analysis. Indeed, even the authors that it relies on for this point, Dolzer & Schreuer, conclude that "control is obviously an important aspect in the analysis of a taking".[520] (Emphasis added)

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[515] *Middle East Cement Shipping and Handling co. S.A. v. Arab Republic of Egypt* (ICSID Case No. ARB/99/6) Award (12 April 2002) (Annex R-350).

[516] Claimant's Reply, ¶ 553.

[517] Canada's Counter-Memorial, ¶ 561.

[518] Claimant's Reply, ¶ 554.

[519] Canada's Counter-Memorial, ¶¶ 561-563.

[520] Dolzer, Rudolf & Christoph Schreuer, PRINCIPLES OF INTERNATIONAL INVESTMENT LAW (Oxford: Oxford University Press, 2008) (Annex R-177); *See also* Christie, G.C., *What Constitutes a Taking of Property Under International Law?* (1962) 38 BRIT Y.B. INT'L. L. 307 at 337 (Annex R-169).

273. And, as Canada noted in its Counter-Memorial, both the *Pope & Talbot*[521] and the *PSEG* decisions reaffirm "the importance of considering matters such as control of the investment, management of day-to-day operations, administration, distribution of dividends, and the appointment of officers".[522]

274. For the above reasons, Chemtura has failed to meet the burden of proving that it suffered a substantial deprivation in this case.

D. Chemtura has mischaracterized Canada's police powers argument and has failed to establish that the doctrine should not apply in this case

275. Since Chemtura has failed to establish that it was substantially deprived of its investment, there is no need for this Tribunal to examine the police powers issue.

276. However, if this Tribunal were to make a finding of substantial deprivation, then the police powers doctrine would apply leading to the conclusion that there was no expropriation in this case.

277. Chemtura's criticism of Canada's police powers argument is essentially twofold: first, it says that Canada has wrongly applied the police powers doctrine "as an *ex post facto* justification" of the PMRA actions with respect to lindane which were actually "designed to serve an economic and political purpose, namely to reinforce a policy decision to safeguard economic relations with the United States at the expense of the Investor's investment";[523] secondly, Chemtura says that Canada's interpretation of the police powers doctrine is "misguided" because Canada argues that it "is absolute in nature, conflating police measures with any measure taken for a public health or environmental purpose".[524]

278. First, Canada points out that it has provided extensive evidence which demonstrates that the PMRA's motivation for suspending all remaining uses of lindane,

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[521] Canada's Counter-Memorial, ¶ 540.
[522] Canada's Counter-Memorial, ¶ 550.
[523] Claimant's Reply, ¶ 560.
[524] Claimant's Reply, ¶ 563.

following the release of the 2001 Special Review, was its valid, scientific concern about the health risks associated with its use,[525] and not any ulterior economic or political factors.

279. Chemtura's second criticism of Canada's application of the police powers doctrine is that Canada has argued that the doctrine is "absolute in nature" in the sense that, "[o]n Canada's reading of the provisions of NAFTA, there would be next to no possibility of making a claim for expropriation where the measures at issue are cloaked as measures undertaken for public health and environmental concerns".[526]

280. Canada argued nothing of the sort. In fact, Chemtura itself admits as much in paragraph 574 of its Reply where it quotes this passage from Canada's Counter-Memorial: the police powers doctrine is meant to "operate within certain limits so that it is not abused by governments who might enact police measures as a pretext to an expropriation".[527]

281. Canada explicitly acknowledges that the police powers doctrine is not "absolute in nature" and that it has the potential to be abused by unscrupulous governments. However, when the four checks and balances are applied to this case – i) non-arbitrary; ii) non-discriminatory; iii) not excessive; and iv) good faith – it is clear that the PMRA's decision to de-register lindane was a legitimate exercise of Canada's police power.[528]

282. Significantly, Chemtura has not disputed the suitability of applying these four factors to the police powers analysis.

283. In its Counter-Memorial, Canada provided considerable authority for the applicability of the police powers doctrine in a case such as the present one.[529]

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[525] Canada's Counter-Memorial, ¶¶ 598-604; *see also* First Affidavit of John Worgan, ¶¶ 94-103, 172; *see also* First Affidavit of Cheryl Chaffey, ¶¶ 6, 7, 27; *see also* First Expert Report of Dr. Costa, ¶¶ 157-159, 116, 150-151, 45, 160.

[526] Claimant's Reply, ¶ 569.

[527] Claimant's Reply, ¶ 574, quoting Canada's Counter-Memorial, ¶ 594.

[528] Canada's Counter-Memorial, ¶¶ 594-650.

[529] Canada's Counter-Memorial, ¶¶ 565-593.

Fundamentally, this case is about a government banning the use of a dangerous chemical in order to protect public health. No compensation is required in such circumstances, even if the Claimant could prove (which it has not) that its investment has suffered substantial deprivation as a result.

284. Chemtura cites the 2007 award in *Vivendi* for the proposition that, "[i]f public purpose automatically immunises the measure from being found to be expropriatory, then there would never be a compensable taking for a public purpose."[530] This proposition is of course correct. What Chemtura fails to understand, however, is that there is a difference between "public purpose" and "police powers". The police powers doctrine covers a narrower set of measures adopted by the State: notably, measures taken to protect public health, morals, order and security.[531] The cases cited by Chemtura in its Reply do not address the applicability of the police powers doctrine in a case such as the present one.

285. Instead, Chemtura cites the award in *Santa Elena* out of context and in a misleading way. Crucially, in *Santa Elena*, both parties to the dispute agreed that an expropriation had taken place. An expropriation decree had been adopted by the State that specifically expropriated property owned by Compañia de Desarrollo Santa Elena S.A. The decree provided for the amount of compensation to be paid. In domestic proceedings, Santa Elena did not contest the expropriation itself but the price fixed by Costa Rica's decree.[532]

286. Eventually, Santa Elena brought the matter to an ICSID tribunal who proceeded to decide the only issue in dispute: the amount of compensation for the expropriation.[533]

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[530] Claimant's Reply, ¶ 566 citing *Compania de Aguas Del Aconquija S.A. and Vivendi Universal S.A. v. Argentine Republic*, ICSID Case No. ARB/97/3, Award (20 August 2007) (cited in Claimant's Reply at ¶ 566, fn 533).

[531] Canada's Counter-Memorial, ¶¶ 566-570.

[532] *Compañia del Desarrollo de Santa Elena S.A. v. Republic of Costa Rica* (ICSID No. ARB/96/1) Award (17 February 2000), ¶ 19 (Annex R-176) (*Desarrollo – Award*).

[533] *Desarrollo – Award*, ¶¶ 54-56 (Annex R-176), where the tribunal states that "the sole issue in the present arbitration could not be more simply stated: What is the amount of compensation now owed to CDSE for the expropriation of the Property by Costa Rica?"

Chemtura cites the latter part of paragraph 71 and 72 of the award. However, it is important to consider the two paragraphs in their entirety:

> 71. In approaching the question of compensation for the Santa Elena Property, the Tribunal has borne in mind the following considerations:
>
> -- International law permits the Government of Costa Rica to expropriate foreign-owned property within its territory for a public purpose and against the prompt payment of adequate and effective compensation. This is not in dispute between the parties.
>
> -- While an expropriation or taking for environmental reasons may be classified as a taking for a public purpose, and thus may be legitimate, the fact that the Property was taken for this reason does not affect either the nature or the measure of the compensation to be paid for the taking. That is, the purpose of protecting the environment for which the Property was taken does not alter the legal character of the taking which adequate compensation must be paid. The international source of the obligation to protect the environment makes no difference.
>
> 72. Expropriatory environmental measures – no matter how laudable and beneficial to society as a whole – are, in this respect, similar to any other expropriatory measures that a state may take in order to implement its polices: where the property is expropriated even for environmental purposes, whether domestic of international, the state's obligation to pay compensation remains.[534] (emphasis added)

287. It should be noted that, in *Santa Elena*, evidence had been adduced regarding the impact of Costa Rican environmental laws and regulations on the value of the property taken. That is the context of the Tribunal's statement above: it was all about compensation and what should be taken into account in valuation. There was absolutely no discussion in the award regarding the police powers doctrine. No one disagreed that an expropriation had taken place. Consequently, Chemtura's attempt to use the case to undermine the applicability of the police powers doctrine in this case is misplaced.

[534] *Desarrollo - Award*, ¶¶ 71, 72 (Annex R-176).

288. The other area where the Claimant confuses the law on expropriation relates to intent. It has long been held that the "intent" to expropriate is not necessary to make a finding of expropriation – the effect of the measures matters more than what the government says it was trying to do or not to do.[535] That principle is relevant to the substantial deprivation analysis. That principle, however, does not negate the existence of police powers as a doctrine of customary international law. In the police powers context, the inquiry is a different one: was the government acting to protect public health in a manner that was non-discriminatory, not excessive, non-arbitrary, and in good faith? If the answer to this question is yes, then the Claimant does not – at international law – have a right to compensation.

289. Chemtura also claims that Canada's reliance on the *Methanex* case is "inapposite".[536] It attempts, unsuccessfully, to differentiate its own case from the one in *Methanex* in two ways: first, as to the meaning of "non-discrimination"; and secondly in terms of "specific commitments".

290. First, the investor misinterprets the meaning of "non-discriminatory". In the international law of expropriation, it has always been clear that non-discrimination relates to the nationality of investors.[537] In other words, a state cannot expropriate "Property A" as opposed to "Property B", solely because B is owned by a foreigner. Such a taking would constitute an unlawful expropriation. The theory advanced here by Chemtura, however, would make it impossible lawfully to expropriate one property over another for whatever reason, having nothing to do with nationality. As Canada explained in its

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[535] *Tippetts, Abbett, McCarthy, Stratton v. TAMS-AFFA Consulting Engineers of Iran*, 6 Iran-U.S. CTR 219 Award (29 June 1984), pp. 225-226 (Annex R-357). *See also* Higgins, Rosalyn, The Taking of Property by the State: Recent Developments in International Law (1982) 176 REC. DES COURS 259 at 322-324 (Annex R-204); Herz, John, Expropriation of Foreign Property (1941) 35:2 AM. J. INT'L. L. 243 at 248 (Annex R-203).

[536] Claimant's Reply, ¶ 571.

[537] Canada's Counter-Memorial, ¶¶ 613, 614 referring to Wortley, B.A., EXPROPRIATION IN PUBLIC INTERNATIONAL LAW (New York: Cambridge University Press, 1959), ¶ 110 (Annex R-303), *see also Emanuel Too v. Greater Modesto Insurance Associates,* Award No. 460-880-2 (29 December 1989), 23 Iran-U.S. C.T.R. 378, 23 Iran – U.S. C.T.R. 378, ¶ 27 (Annex R-182).

Counter-Memorial, non-discrimination is a factor to be considered by a Tribunal when it evaluates the validity of the exercise of police power by the state.[538]

291. As it first pled its case in its Notice of Intent, Chemtura claimed a breach of 1103 on the basis that it was discriminated against because another company (Syngenta) was allegedly treated better by the PMRA than Chemtura was.[539] However, this claim of nationality-based discrimination was dropped in the Memorial, in which the Claimant has instead framed its allegations surrounding Syngenta as a breach of the minimum standard of treatment, with no mention of nationality-based discrimination. Chemtura also later completely dropped its 1102 claim. Presumably, these changes were made because it could not prove any nationality based discrimination in this case.

292. Secondly, on the issue of specific commitments, Chemtura:

> takes issue with Canada's pattern of ambiguous, non-transparent and changing commitments which demonstrate bias on the part of the PMRA and a clear intention to eliminate lindane from the Canadian marketplace in a disproportionate manner, and without a proper genuine purpose to do so, as recalled in more detail next.[540]

293. Canada has already demonstrated in its analysis of Article 1105 that no specific commitments had been made to Chemtura that Canada would, in the language used in *Methanex*, "refrain from" regulating lindane. Allegations of "ambiguous, non-transparent and changing commitments" are the antithesis to "specific commitments". This demonstrates that the Claimant's complaint is really about its subjective expectations. Those do not amount to evidence of expropriation.

294. Turning away from the legal basis of police powers to the alleged facts, in section IV D of its Reply, Chemtura makes a weak attempt to show how Canada has failed to discharge its burden of proof regarding its application of the police powers doctrine by

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[538] Canada's Counter-Memorial, ¶¶ 565-570.

[539] Letter from Michael Phelan, Ogilvy Renault, to Attorney General of Canada, 4 April 2002 (Annex R-352).

[540] Claimant's Reply, ¶ 573.

baldly alleging that the PMRA's measures with respect to lindane were arbitrary, discriminatory, disproportionate, and done for an improper purpose.[541]

295. In each case, however, Chemtura has not met the Claimant's burden of proving those allegations because it has relied on alleged facts that it either failed to establish in the first place (e.g. regarding its conspiratorial claim that the measure were economically and politically motivated) or that Canada clearly refuted in its Counter-Memorial and supporting affidavits (e.g. the PMRA's alleged use of inadequate data for the Special Review;[542] the timing of the respective registrations of Chemtura's Gaucho and Syngenta's Helix[543]).

296. It is significant that Chemtura has not produced any factual or expert evidence to refute Dr. Costa's expert opinion that the PMRA's Special Review "evaluation is within the boundaries of acceptable and credible science".[544] Similarly, the Lindane Board of Review concluded that the PMRA's Special Review "risk assessment and conclusions were generally within acceptable scientific parameters"[545] and that "the risk assessment process…was adequate…and consistent with the existing regulations as they applied to lindane registration at the time".[546]

297. In conclusion, there is nothing in Chemtura's Reply that comes close to defeating Canada's police powers argument.

E. Chemtura has not rebutted Canada's consent argument

298. Chemtura alleges in its Reply that Canada's consent argument is "disingenuous" and "wholly without merit" for two reasons: i) the Claimant complains that "the "voluntary" nature of the agreement is vitiated by the fact that Crompton Canada was

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[541] Claimant's Reply, ¶¶ 576-580.

[542] Canada's Counter-Memorial, ¶¶ 299-303, *see also* First Affidavit of John Worgan, ¶¶ 67-72 and 145-156.

[543] Canada's Counter-Memorial, ¶¶ 241-259, *see also* First Affidavit of Suzanne Chalifour, ¶¶ 32-50, *see also* Second Affidavit of Suzanne Chalifour, ¶¶ 15-17.

[544] First Expert Report of Dr. Costa, ¶ 158.

[545] *Board of Review Report*, ¶ 115 (Exhibit WS-71).

[546] *Board of Review Report*, ¶ 128 (Exhibit WS-71).

dealing directly with the very body with the power to regulate the use of all pest control products and thus had the power to regulate Crompton Canada out of business"[547]; and ii) Canada has exhibited contradictory behaviour as to whether or not the VWA was in fact voluntary.[548] Chemtura, however, has failed to produce any evidence to support either allegation.

299. Regarding Chemtura's first allegation, Canada has four responses. First, though the PMRA played a facilitating role with the VWA, the PMRA repeatedly confirmed that it would do so only on the basis that the agreement was voluntary and was secured by the CCC. Secondly and more importantly, even though it had the power to regulate Chemtura's activities, the PMRA had no power to compel Chemtura to execute an agreement with itself or any other party.[549] That fact was borne out when Chemtura later refused to join the other registrants in an extended, orderly withdrawal of lindane from the market generally.[550] Thirdly, Chemtura has produced no evidence of coercion on the PMRA's part because none exists. Finally, the alleged power imbalance between the state regulator and the foreign investor was precisely the type of dynamic that existed between the parties in the *Tradex* case. Nevertheless, the tribunal there had no difficulty in ruling that the foreign investor had voluntarily entered into an agreement with a state-owned Albanian company to dissolve their joint venture.[551]

300. Regarding the Claimant's second allegation about Canada's alleged contradictory behaviour vis-à-vis regarding the VWA, Canada has in fact been consistent in it position that the VWA was an agreement voluntarily entered into by all participants.[552] The evidence on that point is clear.[553]

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[547] Claimant's Reply, ¶ 583.

[548] Claimant's Reply, ¶ 583.

[549] Canada's Counter-Memorial, ¶ 168.

[550] Canada's Counter-Memorial, ¶ 620; *see also* First Affidavit of Wendy Sexsmith, ¶ 158.

[551] *Tradex Hellas S.A. v. Republic of Albania* (ICSID No. ARB/94/2) Award (29 April 1999) (Annex R-288).

[552] Canada's Counter-Memorial, ¶ 659.

[553] Canada's Counter-Memorial, ¶¶ 174 - 177.

301. In the result, the consent argument set out in paragraphs 651-659 Canada's Counter-Memorial must prevail.

F. Conclusion

302. For the above reasons, the Claimant has failed in its Reply to establish its Article 1110 expropriation claim against Canada. Canada therefore asks this Tribunal to dismiss Chemtura's claim.

VII. DAMAGES

A. Summary of Canada's position

303. The Claimant's request for damages should be dismissed for the following reasons:

a) Canada was not the proximate cause of any of the losses claimed;

b) Future lost profits for the investment cannot be projected with any reasonable certainty; and

c) The LECG Report is entirely unreliable and speculative because it: (i) is based on a series of implausible assumptions; (ii) ignores real facts that introduce overwhelming market risk; and (iii) suffers from a series of additional technical flaws.

B. General principles governing damages

1) Causation

304. The law is clear on causation and is not in dispute in this case. Compensation is only due "in respect of harm that is proved to have a *sufficient causal link* with the specific NAFTA provision that has been breached."[554] In other words, the harm must not be too remote: the breach of the specific NAFTA provision must be the *proximate* cause of the harm.[555]

305. In it Reply, the Claimant makes only summary reference to causation:

> ...damages were sustained by Chemtura as a direct result of the actions of the PMRA in compelling adherence to the CWA, in sowing alarm about lindane seed treatments in the grower and user

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[554] *S.D. Myers Inc. v. Canada* (UNCITRAL) Second Partial Award (21 October 2002), ¶¶ 140-145 (Annex R-268) (*S.D. Myers – Second Partial Award*).

[555] RESPONSIBILITY OF STATES FOR INTERNATIONALLY WRONGFUL ACTS 2001, *Report of the International Law Commission*, Fifty-Third Session (23 April-1 June and 2 July-10 August 2001), Supp. No. 10 (A/56/10), United Nations, New York, Article 31, Commentary 10 (Annex R-208) (*ILC Draft Articles*). *See also Metalclad v. Mexico* (ICSID No. ARB(AF)/97/1) Award (30 August 2000), ¶ 115 (Annex R-233) (*Metalclad – Award*): "The causal relationship between Mexico's actions and the reduction in value of Metalclad's other business operations are too remote and uncertain to support this claim." *See also S.D. Myers – Second Partial Award*, ¶ 140 (Annex R-268): "...the harm must not be too remote,...the breach of the specific NAFTA provision must be the proximate cause of the harm." *See Vivendi Universal S.A. v. Argentine Republic* (Case No. ARB/97/3) Award (20 August 2007) at 7.6.1 (cited in Claimant's Reply at ¶ 566, fn 533) (*Vivendi – Award*).

> communities, in breaching the terms of its Agreement with Chemtura regarding the terms of the withdrawal, and in peremptorily deregistering all formerly permitted uses of lindane-seed treatments.[556]

306. Further, LECG's Supplemental Report continues to rely on the assumption that Canada's actions led to losses in the U.S. market.[557]

307. None of these alleged PMRA measures was the proximate cause of the losses the Claimant alleges. Its damages claims fail on this basis alone.

a) The VWA itself was not the proximate cause of any loss of lindane-product sales by the Claimant

308. The Claimant argues that Canada "compel[led] adherence" to the VWA.[558] Even if the Tribunal finds that the PMRA should not have facilitated the VWA, and such facilitation violated NAFTA, in the absence of the VWA, as of 1998, the U.S. border was closed to lindane-treated canola seed and there was a strong threat this would extend to all canola exports grown from lindane-treated seed.[559] Moreover, Canadian canola growers would have been faced with the immediate threat of public campaigning by the WWF against their continued use of lindane.[560] But-for the VWA, Canadian canola farmers would have made the decision to stop using lindane-treated seed altogether in 1998.[561] Instead, by allowing a gradual phase-out, the VWA had the effect of prolonging lindane use on canola for an extra 3 years, to the end of the 2001 growing season.

309. Furthermore, even in the absence of the VWA, replacement products such as Helix would still have been introduced onto the Canadian market.[562] These products were aggressively marketed by Chemtura's competitors, and "value bundled" with new seeds

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[556] Claimant's Reply, ¶ 592.

[557] Letter from Greg Somers, Ogilvy Renault, to Manuel Abdala and Pablo Spiller, LECG, 28 May 2008 (Exhibit 4 to First LECG Report).

[558] Claimant's Reply, ¶ 592.

[559] Second Affidavit of Tony Zatylny, ¶¶ 5-10.

[560] Second Affidavit of Tony Zatylny, ¶ 24.

[561] Second Affidavit of Tony Zatylny, ¶¶ 14-15.

[562] First Affidavit of Suzanne Chalifour, ¶¶ 44-47.

growers wanted to use.[563] Moreover, the cost of seed treatment is not the main driver in decisions to plant canola.[564] Regardless of cost, canola growers had decided to move on to replacement products.[565]

310. Given the threat of border closure and the strong market pressure to stop using lindane, Canadian canola farmers would have shifted to these replacement products regardless of the PMRA's involvement in the VWA.

311. Finally, the Special Review would have proceeded irrespective of the VWA. By October 2001, the PMRA had determined that lindane use posed unacceptable health risks and the Claimant's remaining registrations were suspended by February 2002. Thus, even in the absence of the VWA, Chemtura's lindane-product sales would have ended after the 2001 growing season.

312. The VWA therefore caused the Claimant no loss.

b) The alleged breach of conditions in connection with the VWA was not the proximate cause of any losses

313. The Claimant's losses in connection with a breach of alleged VWA "conditions" are also unestablished.

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[563] Canada Business Plan for Gustafson Partnership, 27 June 2002 (Exhibit NCI-10). Large companies, including Syngenta, would compete with each other while smaller companies such as Chemtura would have to "find partners and revisit their business model to compete in the "value bundle" world in all the major crops."

[564] First Affidavit of JoAnne Buth, ¶ 72.

[565] *See* Rob Dupree, Notes on Meeting with Canola Council of Canada, 3 June 1999 (Exhibit NCI-11): "They intend to move ahead with their position even if the new alternatives are more expensive and, for short term seed protection, they may not be more expensive." "...regardless of cost, a page has been turned and it won't be turned back". *See also* Rob Dupree, Gustafson R&D Reports, 25 June 1999 (Exhibit NCI-11). *See also* Board of Directors Meeting – Gustafson Partnership, 8 April 2002 (Annex R-353): "There is also a growing trend of 'lindane is old, let's move on to new technology'"; "Reception from CCC was polite but discussion did not sway their position on lindane. CCC feels they have taken a position of not supporting continued use of lindane and will stick to it, irregardless of the results of new studies or the cost of replacement products."

(i) Notice of the end-date of the VWA was not the cause of any loss of lindane-product sales by the Claimant

314. The Claimant alleges that the PMRA "sowed alarm" about the end-date of lindane use under the VWA among Canadian canola growers.[566] Even if the Tribunal finds this to be true (which it is not), such "alarm" did not cause the Claimant any losses. The evidence shows that:

- Canadian canola growers continued to use lindane on the crops they planted until July 1, 2001 (the end of the phase-out period under the VWA);[567]
- Lindane seed treatment product produced by the Claimant up to December 31, 1999 had a normal shelf-life of two years,[568] and therefore had to be used up by the end of 2001 season; and
- To the extent there were any lindane-treated seeds left over at the end of 2001, the PMRA ultimately allowed these remains to be absorbed into the 2002 season, exhausting remaining supplies.[569]

315. Therefore, any alleged misunderstanding of the VWA end-date caused no losses to the Claimant.

(ii) The timing of registrations of replacement products was not the cause of any losses by the Claimant

316. The Claimant alleges that the PMRA should have "fast-tracked" the registration for its all-in-one Gaucho product.[570] Even if the Tribunal finds this to be true (which it is not), this did not cause the Claimant any losses because:

- Even with its first-market advantage of other versions of Gaucho, registered as of October 1999, Chemtura continued to try to "use up" its

[566] Claimant's Reply, ¶ 592.

[567] Letter from Gene Dextrase, President, CCGA, and Bruce Dalgarno, Past President, CCGA, to Dr. Claire Franklin, Executive Director, PMRA, 26 November 1998 (Exhibit TZ-13).

[568] Claimant's Memorial, ¶ 51.

[569] First Affidavit of Wendy Sexsmith, ¶ 145.

[570] Claimant's Reply, ¶ 179.

remaining lindane product rather than prompt canola farmers to try its newly-registered product;[571]

- The Claimant's all-in-one product was not fully submitted to the PMRA until February 2001.[572] Even if it had been possible to review this submission in three months (which it was not), Helix would still have been on the market earlier, as Helix was registered by November 2000;[573]
- Syngenta, the producer of Helix, was far more proactive in marketing its replacement product than was Chemtura,[574] and consistently outbid Chemtura;[575]
- Chemtura itself recognizes that Helix was a superior product;[576] and
- The industry was in transition and smaller companies like Chemtura were being negatively affected.[577]

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[571] Claimant's Reply, ¶ 170; Second Statement of Evidence of John Kibbee, ¶ 10. This is in stark contrast to Syngenta, which "heavily promoted Helix while the market was predominantly lindane products in anticipation of the market change. Millions of dollars were spent on advertising in the first two years of registration." See Canada Business Plan for Gustafson Partnership, 27 June 2002 (Exhibit NCI-10).

[572] See Canada's Counter-Memorial, ¶¶ 269-271. See First Affidavit of Suzanne Chalifour, ¶¶ 56, 62-63. Also, this does not appear to be the first time the Claimant dragged its feet and lost valuable time in the market. In 1997, PMRA had "begged" Gustafson to get its Gaucho submission in by the spring of 1998, but they did not submit it: Email from Bill Hallatt to Rick Turner and Ed Howell, 18 November 1998 (Annex R-354).

[573] Second Affidavit of Suzanne Chalifour, ¶ 21.

[574] See Canada Business Plan for Gustafson Partnership, 27 June 2002 (Exhibit NCI-10): Syngenta heavily promoted Helix while the market was predominantly lindane products in anticipation of the market change." Also: "Syngenta and Aventis became very active and aggressive in the Canadian market. Not only did they bring new products into the market both companies took aggressive marketing and price strategies in cereals and canola essentially offering free seed treatment if the grower purchased other products the company marketed." See also Letter from Rick Turner to the Board of Gustafson, 14 December 2001 (Annex R-355): "The aggressive pricing of Helix this fall has devalued the market."

[575] See Letter from Rick Turner to the Board of Gustafson, 14 December 2001 (Annex R-355) for a discussion about consistently losing business to competitors (e.g. Monsanto and Syngenta) because of being out-bid and out-marketed.

[576] Canada Business Plan for Gustafson Partnership, 27 June 2002 (Exhibit NCI-10): "In all categories, disease and insect control, seed safety and ease of use Helix had the advantage." See also Gustafson 2003-2007 Strategic Plan, 17 September 2002 (Annex R-356): "Helix is the preferred product of the seed companies." See also Gustafson Gaucho Canola Plan, Board of Managers Meeting, 25 April 2001 (Annex R-357): "The transition will take resources beyond the current budget if we wish to make any sort of market against the competition at the grower level. Gaucho has a field performance deficit. Gaucho seed safety is comparable to lindane but not as good as Helix."

[577] Canada Business Plan for Gustafson Partnership, 27 June 2002 (Exhibit NCI-10): "The business in Canada has evolved into the battle of giants, and it would appear Syngenta, Bayer, Monsanto, Dow, Dupont and BASF are going to slug it out. Smaller companies will have to find partners and revisit their business model to compete in the "value bundle" world in all major crops."

317. Not only did Chemtura delay submitting its all-in-one formulation to the PMRA, but all evidence points to Chemtura being outperformed by its competitors in the replacement product market. The Claimant would have been out-bid and out-marketed by its competitors, regardless of whether the PMRA issued a registration at the time the Claimant demanded.

(iii) The timing of the Special Review was not the cause of any losses by the Claimant

318. The Claimant further alleges that the PMRA should have reached a decision in the Special Review by the end of 2000. The release of the decision in October 2001 has not demonstrably caused the Claimant any losses.

319. There is no reason to believe that an earlier result in the Special Review would have been positive. The science of that decision-making would have been the same. Moreover, the Board of Review concluded that the Special Review result was within acceptable scientific parameters.[578] An earlier result would simply have led to an earlier general retreat from lindane.

320. Moreover, any losses were not proximately caused by Canada. Canadian canola growers would not agree to use lindane-treated seed unless and until the United States issued an Maximum Residue Limit (MRL) (an MRL allows the importation of products with a lindane residue), which it did not. Even the Claimant's own valuation expert, LECG, recognizes that the Claimant would "not have been able to sell lindane products for canola in Canada *until the U.S. EPA had either registered Crompton's lindane products for canola or set tolerance limits for these products* so as to dissipate any potential trade concerns on the part of Canadian canola growers."[579] (emphasis added) Dr. Goldman has confirmed, based upon her review of the Claimant's internal documents

[578] Canada's Counter-Memorial, ¶ 399. *See also Board of Review Report* (Exhibit WS-71).
[579] Second LECG Report, ¶ 46.

and the public record, that the Claimant's attempt to obtain a U.S. tolerance failed, as the US EPA reached the same negative conclusion as had Canada.[580]

c) The deregistration of remaining lindane uses did not cause any losses to the Claimant

321. The Claimant also suggests that the PMRA should not have deregistered the Claimant's remaining lindane registrations in 2002 after the Claimant refused to withdraw these, based on the results of the Special Review.[581] There are no losses to the Claimant based on this alleged breach because:

- The use of lindane on canola, by the Claimant's admission the bulk of its lindane seed treatment market, was in any event phased out as of July, 1, 2001 due to the VWA;
- The Claimant had a choice to take advantage of the voluntary withdrawal and a phase-out for these uses, but unlike other registrants, refused this opportunity, leaving the PMRA in the position where it statutorily had to deregister the Claimant's remaining lindane registrations;[582] and
- Even these *de minimis* uses would have been the subject of a time-limited phase-out of only six months to a year.[583]

322. As a result, there are no losses or at most, these were *de minimis*.

d) Canada's actions were not the proximate cause of alleged Chemtura losses in the U.S. lindane market

323. The Claimant argues that absent the alleged breaches, Chemtura would have continued its efforts to pursue registration for lindane products for canola in the U.S.,

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[580] *See* Second Expert Report of Dr. Goldman.

[581] Claimant's Reply, ¶ 592.

[582] See First Affidavit of Wendy Sexsmith, ¶¶ 149-158. The Claimant was given an opportunity to take advantage of a phase-out but refused to do so, as it disagreed with the outcome of the Special Review. The other registrants did voluntarily withdraw their existing registrations.

[583] The phase-out would have granted registrants approximately a one-year phase-out for use on nine crops (First Affidavit of Wendy Sexsmith, ¶ 154), and registrants approximately a four-month phase-out for use on another six crops (First Affidavit of Wendy Sexsmith, ¶ 155). See also Letter from Janet Taylor, PMRA, to Rob Dupree, Crompton Canada (predecessor-in-title to Chemtura Canada), 19 December 2001 (Exhibit WS-60).

and, in turn, would have successfully obtained a tolerance for lindane for canola products from the U.S. EPA by early 2003 and a continued tolerance by 2007.

324. Even if one were to assume that the PMRA should not have (a) facilitated the VWA, and (b) found that lindane was unsafe for further registration, Canada's measures were not the proximate cause of the Claimant's alleged loss of the U.S. lindane market because:

- There was no legal right to export lindane-treated canola to the U.S., and in fact Chemtura had been enjoying the benefit of the U.S. lack of border enforcement by the U.S. for years;[584]
- This legal right was never granted by the U.S.;[585]
- Canada is not responsible for a business decision made by Chemtura to abandon any attempts to attain a tolerance or registration for lindane for use on canola in the U.S.;[586]
- Moreover, the evidence suggests that contrary to what the Claimant alleges, the Claimant did fully pursue a tolerance for lindane-treated canola seed with the EPA and failed to obtain one;[587] and
- The U.S. EPA, by 2006, had deregistered all remaining, non-canola lindane uses, as it had concluded lindane use presented unacceptable risks.[588]

325. As the Claimant's own experts acknowledge, without tolerance (or registration) in the U.S., the Claimant would not be able to resume sales of lindane in Canada. The EPA has the exclusive right to issue such a tolerance. Canada cannot be held responsible for

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[584] Letter from Anne Lindsay, Director, Field and External Affairs Division, EPA to E.L. Moore, Executive Vice President, Gustafson, 12 January 1998 (Exhibit TZ-19).

[585] *See* Second Expert Report of Dr. Goldman. *See also* Canada's Counter-Memorial ¶¶ 458-460.

[586] The assumption here is that a tolerance would have been attainable, but the evidence suggests the opposite. Moreover, if the tolerance was so readily attainable, it begs the question of why the Claimant would have abandoned its alleged efforts.

[587] *See* Second Expert Report of Dr. Goldman. *See also* Canada's Counter-Memorial ¶¶ 458-460. See also Email from Ray Cardona to C.P. Yip and others, 27 October 2005 (Annex R-358): "All in all, TSG has crafted what I believe is the best possible case for EPA to grant the seed treatment tolerances, including canola. Given the current adverse worldwide regulatory climate for lindane it will be an uphill battle. However, it is probably our best shot as I don't see another way to approach EPA, so we should probably go with it."

[588] First Expert Report of Dr. Goldman, ¶¶ 59-60.

the sovereign acts of a U.S. government agency.[589] As a result, any losses linked to the U.S. market are simply too remote for recovery.

326. Further, since the canola growers decided not to use lindane-treated seed based on the realization that the chances of the U.S. granting a tolerance were slim,[590] all losses claimed in this arbitration are too remote for recovery.

C. Compensation for expropriation

327. The Claimant takes the position that NAFTA does not speak to the standard of compensation for unlawful expropriation,[591] and that as a result, the general principle of reparation in *Chorzow* should be applied if the Tribunal were to conclude there is an unlawful expropriation.

328. Canada submits that this is not the case to decide whether the compensation standard for unlawful expropriation under NAFTA is the same as for lawful expropriation. This is for two reasons: (a) there is no expropriation in this case, and (b) any differentiation between lawful and unlawful expropriation makes no practical difference to the present damages valuation.

329. The unlawful/lawful distinction made in *ADC* referred to by the Claimant in its Reply[592] is irrelevant to assessing damages in the present case, as even when applying the general principle of reparation in *Chorzow*, the appropriate valuation date is the date of the alleged expropriation. As Navigant sets out in its Second Report, on the facts of this case, cash flows beyond the date of the alleged expropriation cannot be treated with any

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[589] As decided in *S.D. Myers – Second Partial Award*, "the closure of the border by the USA was the factor that…put an end to [the investment's] prospects for generating income in Canada." *See S.D. Myers – Second Partial Award*, ¶ 213 (Annex R-268).

[590] Second Affidavit of Tony Zatylny, ¶ 14; First Affidavit of JoAnne Buth, ¶ 37. Moreover, as noted by LECG, "Claimant would not have been able to sell lindane products for canola in Canada until the U.S. EPA had either registered Crompton's lindane products for canola or set tolerance limits for these products so as to dissipate any potential trade concerns on the part of Canadian canola growers." First LECG Report, ¶46 [emphasis added]. LECG also acknowledged that without the resolution of the import restrictions into the United States, "Canadian growers would have been reluctant to switch back to lindane products, even if the PMRA had authorized their reinstatement in Canada by late 2000." See First LECG Report, ¶ 44, fn. 20 (emphasis added).

[591] Claimant's Reply, ¶ 641.

[592] Claimant's Reply, ¶ 643.

measure of certainty, and therefore, information beyond the date of the alleged expropriation should not be taken into account in the valuation.[593] In other words, the nature of the investment in this case does not allow for an accurate assessment of damages as of the date of the award.

330. In particular, there was a high degree of market uncertainty in the post-2001 world in the case of lindane-treated canola. The risks not only relate to whether or not the Claimant could have achieved the market share, sales, and profits calculated by LECG for the Claimant's lindane-based pesticides, but whether or not a market for the Claimant's lindane-based pesticides would have continued to exist at all after July 1, 2001.[594] Therefore, to choose the date of the award as the date of valuation is to engage in a highly speculative and uncertain assessment of the damages. Accordingly, the only appropriate valuation methodology would be one that measures damage as of the date of the alleged expropriation.

331. This differentiation between legal and illegal expropriation is made even further irrelevant to damages in the present case because, as Navigant points out, any attempt to come up with any valuation of the lindane canola business as of July 1, 2001, results in a valuation of zero.[595] This is because a reasonable businessman assessing Claimant's lindane business with information available at that point in time would conclude that the business had no value because of its highly uncertain future insurmountable market risks. As of that date, the North American market for lindane on canola had disappeared. There was no existing tolerance in the U.S. The canola growers knew that the prospects of obtaining such a tolerance were bleak. As at 1998, they were also increasingly concerned about the negative press lindane was receiving, and therefore had decided to stop using lindane seed treatments altogether by the end of the 2001 planting season.[596] Moreover,

[593] Second Navigant Report, ¶¶ 63-79.

[594] Second Navigant Report, ¶¶ 77-78.

[595] Second Navigant Report, ¶ 79.

[596] Second Affidavit of Tony Zatylny, ¶ 14; First Affidavit of JoAnne Buth, ¶ 37. Even if the Tribunal were to accept Claimant's argument that an ex-post methodology is appropriate in this case (Canada maintains that it is not), the value of the lindane-seed treatment business as of the date of the award would still be zero.

in 1998 the growers were aware of the growing trend internationally to restrict and ban lindane altogether.

D. Compensation for other breaches

332. NAFTA Chapter 11 does not contain compensation provisions for its 1105 and 1103 substantive obligations. As a result, Tribunals have looked to customary international law for the appropriate standard: an award of damages seeks to put the investor in the position it would have been had the breach not occurred. This principle is reflected both in *Chorzow*, as well as in the *ILC Draft Articles*.[597]

333. Tribunals have recognized that an assessment of a non-expropriation breach is fact-driven and case-specific.[598] The key in such an analysis is causation: the loss awarded must be the proximate cause of the measure.[599] In other words, the compensation should reflect the *actual loss* incurred as a result of the wrongful act.

334. In its Reply, the Claimant argues that losses should be awarded for the "eradication of its lindane seed treatment business and the income from it that it would have expected to receive but-for the action of Canada."[600] Whether or not these losses are incurred for a breach of Article 1105 or 1110, the Claimant takes the position that there has been a total loss of the investment. However, the Claimant has made no attempt to establish how a breach of Article 1105 would lead to a total loss of the investment.

335. Moreover, the LECG report provides one valuation figure for the total loss of the investment. It has therefore assumed that an Article 1105 breach would result in the same losses as an Article 1110 breach. It has provided no calculations or justification to the Tribunal that would assist it in assessing a loss that is anything less than an expropriation.

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[597] See *ILC Draft Articles*, Article 11, Commentary (Annex R-208). See also McLachlan, Campbell, Laurence Short & Matthew Weiniger, INTERNATIONAL INVESTMENT ARBITRATION: SUBSTANTIVE PRINCIPLES (Oxford; Oxford University Press, 2007) at 334-341 (Annex R-364).

[598] *See S.D. Myers – Second Partial Award*, ¶¶ 305-309 (Annex R-268); *Feldman – Award*, ¶ 194 (Annex R-187).

[599] *S.D. Myers – Second Partial Award*, ¶ 140 (Annex R-268).

[600] Claimant's Reply, ¶ 668.

E. Claimant's damages analysis is highly speculative and lacks reasonable certainty

336. LECG has adopted the DCF method for its damages assessment. The method measures future cash flows, and discounts them by a factor reflecting the time value of money. It is therefore a projection of future lost profits.

337. Canada does not dispute that in some cases, the DCF approach may be a useful methodological tool in assessing damages. However, "the net present value provided by a DCF analysis is not always appropriate and becomes less so as the assumptions and projections become increasingly speculative."[601] In the current case, LECG's DCF assessment is built on a foundation of unrealistic, implausible and heavily biased but-for assumptions specifically dictated by counsel, and ignores a multitude of other factors that would heavily impact market risk. The result is an inherently speculative and highly unreliable damages calculation.

338. Further, compensation for lost future profits is awarded "only where *future profitability* can be established with some level of certainty."[602] In other words, future losses must be probable and not merely possible.[603] They cannot be speculative or too remote.[604]

339. Future profits are awarded when an anticipated income stream has attained sufficient attributes to be considered a legally protected interest of sufficient certainty to be compensable.[605] Reasonable certainty is required because, compared with tangible

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[601] *Vivendi – Award*, ¶ 8.3.3 (cited in Claimant's Reply at ¶ 566, fn 533).

[602] *See Vivendi – Award*, ¶ 8.3.3 (cited in Claimant's Reply at ¶ 566, fn 533).

[603] See *Metalclad – Award*, ¶ 121 (Annex R-233); Ripinsky, Sergey and Kevin Williams, DAMAGES IN INTERNATIONAL INVESTMENT LAW, British Institute of International and Comparative Law, (London: 2008), pp. 210-211 (Annex R-359); Kantor, Mark, VALUATION FOR ARBITRATION (Kluwer Law International, 2008), pp. 72-78 (Exhibit NCI-15).

[604] See *S.D. Myers – Second Partial Award*, ¶ 173 (Annex R-268): "[T]o be awarded, the sums in question must be neither speculative nor too remote." See also *ILC Draft Articles* (Annex R-208), Article 31(10).

[605] *ILC Draft Articles*, Article 36(27) (Annex R-208).

assets, profits are relatively vulnerable to commercial and political risks, and increasingly so the further into the future projections are made.[606]

340. The Claimant's future losses claim has not even come close to meeting the standard of "reasonable certainty" in this case.

1) LECG's fundamental assumptions are unreasonable, improbable, and should not have been attributed 100% certainty

341. Claimant's counsel instructed LECG to "provide an independent and objective assessment of damages"[607] in this case. The Claimant also directed LECG to adopt a series of assumptions into its damages analysis. These assumptions are listed in a letter sent to LECG from May 28, 2008[608] and include:

- PMRA would have completed a positive scientific review on lindane by late 2000 and Claimant could have exercised the option to successfully reintroduce lindane products into the Canadian market.
- Claimant would not have discontinued efforts to register lindane products for canola use in the United States.
- The United States Environmental Protection Agency ("United States EPA") would have granted a tolerance for lindane product use on canola in 2003 and a full registration for lindane product use on canola in 2007.
- Claimant would resume sales of lindane products to Canadian canola growers in 2003 and also resume sales of lindane products for use on non-canola crops in 2002.
- The United States EPA would have registered lindane products for canola use until the year 2022.

342. As Canada argued in its Counter-Memorial, the evidence in this case shows that these factual assumptions are unreasonable, counter-factual, and highly speculative. The actual international scientific trend against lindane, including bans in equivalent

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[606] *ILC Draft Articles*, Article 36(27) (Annex R-208).

[607] Letter from Greg Somers, Ogilvy Renault, to Manuel Abdala and Pablo Spiller, LECG, 28 May 2008 (Exhibit 4 to First LECG Report).

[608] Letter from Greg Somers, Ogilvy Renault, to Manuel Abdala and Pablo Spiller, LECG, 28 May 2008 (Exhibit 4 to First LECG Report).

jurisdictions (U.K., E.U.) make any assumption in favour of a positive PMRA outcome inherently unreasonable. It was also unreasonable and speculative to assume growers would resume their use of the product despite health concerns and negative marketing pressures. The Claimant did *not* abandon its attempts to register lindane use on canola. The Claimant did pursue a tolerance, but their efforts failed, not because of anything Canada did, but because the U.S. EPA came to its own independent conclusion that lindane use posed unacceptable risks.[609] On this basis alone, LECG's damages are fundamentally flawed.

343. Further, as Navigant argues in its Second Report, LECG failed in its obligation to produce an "independent and objective"[610] assessment by ascribing 100% certainty to the EPA issuing an MRL in 2002 and registration in 2006. This is a completely unrealistic assumption that LECG blindly accepts. For example, an objective assessment should have included a substantial discount to its cash flow analysis to account for the risk that an EPA tolerance may not occur,[611] a condition LECG admits is critical to any decision by Canadian canola growers to use lindane *regardless* of whether the PMRA had found lindane to be safe in its Special Review.[612] Not even the Claimant's own witness makes the claim that U.S. registration was a certainty: Mr Johnson only ventures to say that tolerance by the EPA "should have been possible".[613] Dr. Goldman confirms that he is wrong.[614]

344. Similarly, it is highly questionable for LECG to assume with 100% certainty that such a registration for lindane product on canola would have continued for 15 years.[615]

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[609] *See* Second Expert Report of Dr. Goldman. See also Canada's Counter-Memorial ¶¶ 458-460.

[610] Letter from Greg Somers, Ogilvy Renault, to Manuel Abdala and Pablo Spiller, LECG, 28 May 2008 (Exhibit 4 to First LECG Report).

[611] Second Navigant Report, ¶¶ 17, 53-54.

[612] First LECG Report, ¶ 46: "[We] assume that Claimant would not have been able to sell lindane products for canola in Canada until the US EPA had either registered Crompton's lindane products for canola or set tolerance limits for these products so as to dissipate any potential trade concerns on the part of Canadian canola growers."

[613] First Statement of Evidence of Edwin Johnson, ¶ 28.

[614] *See* Second Expert Report of Dr. Goldman.

[615] First Goldman, ¶¶ 82-86. In her first report, Dr. Goldman points out that this is a totally unreasonable assumption.

This assumption is specifically undermined by known facts: in response to an ultimatum from the US EPA, the Claimant withdrew its last remaining registrations; the U.S., Canada and Mexico signed the NARAP in 2006; and the Stockholm Convention added lindane to its substances scheduled for elimination in 2009. These developments had nothing to do with the impugned actions by the PMRA. Yet they would have had a profoundly negative effect on the Claimant's lindane business.

345. Moreover, Gustafson was making contingency plans for a potential ban of lindane in Canada, illustrating that the risk of such a ban was real.[616] Chemtura itself knew in 1998 (*i.e.* before any of the PMRA's impugned actions took place) that lindane's days were numbered.[617] By ignoring any real risks inherent in these counter-factual assumptions, LECG has produced a highly speculative and completely unreliable valuation. LECG should have factored these substantial risks into their damages claim, just as any reasonable business person would have done if objectively assessing the prospects for Claimant's lindane business. Had LECG done so, they could not have concluded that Claimant's lindane-seed treatment business for canola had any value at all.[618]

2) Other unreasonable LECG assumptions make future profits lack reasonable certainty

346. LECG compounds the unreliability of its damages assessment by failing to incorporate a series of other market risks into its assessment. These pivotal facts are not conjecture; they are reality, even if one accepts the unrealistic assumptions LECG was instructed to make. With these factors accounted for, the inevitable conclusion is that Claimant's lost profits claims lack reasonable certainty.

347. These facts include:

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[616] *See* Bill Hallatt, Gustafson Marketing Plan for Canola Seed Protectants - Canada, 9 December 1997 (Annex R-360), which assumed a 25% chance of a ban in Canada.

[617] Email from Ed Howell to Rick Turner Bill Hallatt, 20 September 1998 (Exhibit NCI-13): (notes that lobbying to keep lindane legal would be successful was "wishful thinking on the part of a registrant who is trying to close the barn door after the horses have left.")

[618] Second Navigant Report, ¶¶ 77-79.

- The market for lindane is and has been shrinking since the 1970s.[619] As of 2006, lindane has been banned in 52 countries, severely restricted in 33 countries, not registered in 10 countries and registered in only 17 countries.[620] It has been the subject of numerous international agreements that are committed to its eradication.[621] Most recently, on May 9, 2009, more than 150 countries agreed to eliminate lindane under the Stockholm Convention on Persistent Organic Pollutants.[622]

- Key export countries for Canadian canola that continue to have an MRL on lindane (*i.e.* allowing importation of products with a lindane residue), are committed to reviewing or phasing out the MRL (Mexico, Japan, China).[623] The Stockholm Convention commitment to eliminate lindane in 150 countries will make lingering MRLs increasingly irrelevant.

- Canadian canola growers have been well aware since the late 1990s that lindane use is increasingly restricted. Lindane has been under scrutiny internationally as a neurotoxic persistent organic pollutant. As consumers of the product, the growers saw the writing on the wall as of the late 1990s and made a decision to stop using this lindane.[624] They were also not comfortable using lindane as it threatened the healthy image of canola.[625] Even if lindane had been granted continued registration in Canada, they had made the decision to stop using it and were not prepared to change their position.[626]

- Chemtura's competitors were more aggressive in research and development, suggesting they were better placed to develop new products

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[619] Commission for Environmental Cooperation, North American Regional Action Plan (NARAP) on lindane and other Hexachlorocyclohexane (HCH) Isomers, 30 November 2006, p. 21 (Exhibit CC-11).

[620] First Navigant Report, ¶ 77.

[621] Second Affidavit of Wendy Sexsmith, ¶¶ 9-15.

[622] Stockholm Convention on Persistent Organic Pollutants, 22 May 2001 (*entered into force* 17 May 2004) (Annex R-38).

[623] Mexico is a partner under NARAP and is committed to phasing out all uses of lindane. Japan has new strict provisional MRL on lindane, Hong Kong no longer has an MRL on lindane, and it is unclear what the status is of an MRL in China.

[624] Letter to Dr. Claire Franklin, Director, PMRA from Eugene Dextrase, President, CCGA, 19 October 1998 (Exhibit TZ-10); Second Affidavit of Tony Zatylny, ¶¶ 22-28.

[625] Second Affidavit of Tony Zatylny, ¶¶ 22-28. It was not unusual for the CCC to react to a product that threatened the healthy image of canola: Second Affidavit of Tony Zatylny, ¶¶ 36-38.

[626] Rob Dupree, Notes on Meeting with Canola Council of Canada, 3 June 1999 (Exhibit NCI-11): "they [CCC] intend to move ahead with their position even if the new alternatives are more expensive, for short terms seed protection, they may not be more expensive", "...regardless of the cost, a page has been turned and it won't be turned back." See also Rob Dupree, Gustafson R&D Reports, 25 June 1999 (Exhibit NCI-11): "Reception from CCC was polite but discussion did not sway their position on lindane and will stick to it, irregardless of the results of new studies or the cost of replacement products."

and overtake any Chemtura market share advantage.[627] Chemtura recognized this and the fact that the future would be a "battle of giants" that excluded Chemtura.[628]

- Chemtura's competitors were engaged in aggressive marketing campaigns and pricing strategies that, even in a but-for world, would have seriously threatened Chemtura's market share.[629]

- Sales of products in the crop protection industry were being affected by crop economics, developments in biotechnology, the introduction of generics into the market, regulatory issues, and the introduction of new chemistries and hybrid products.[630]

348. The cumulative effect of the above factors makes it impossible to project future profitability with any reasonable certainty. They render the LECG analysis calculation completely unreliable and speculative. Further, no reasonable businessman would have ascribed any value to such a business as of July 1, 2001[631] and even less so going forward.

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[627] See Crompton Crop Protection Strategy, 24 May 2001 (Annex R-361): "R&D discovery program severely under resourced vs. majors – 1 % of sales vs. 4.6%." Further, Syngenta had produced a superior product (Helix) than Chemtura (Gaucho). See Canada Business Plan for Gustafson Partnership, 27 June 2002 (Exhibit NCI-10). Chemtura's product development was behind its competitors: "In all categories, disease and insect control, seed safety and ease of use Helix had the advantage."

[628] See Canada Business Plan for Gustafson Partnership, 27 June 2002 (Exhibit NCI-10): "The business plan has evolved into the battle of giants…Smaller companies will have to find partners and revisit their business model to compete."

[629] See Canada Business Plan for Gustafson Partnership, 27 June 2002 (Exhibit NCI-10): "Syngenta heavily promoted Helix while the market was predominantly lindane in anticipation of the market change." "Unfortunately, Syngenta and Aventis became very active and aggressive in the Canadian market. Not only did they bring new products into the market but both companies took aggressive marketing and price strategies in cereals and canola essentially offering free seed treatment if the grower purchased other products the company marketed." The large companies, including Syngenta would compete with each other while smaller companies such as Chemtura would have to "find partners and revisit their business model to compete in the "value bundle" world in all the major crops." See also Letter from Rick Turner to the Board of Gustafson, 14 December 2001 (Annex R-355): "Syngenta used other levers such as law suits, special programming, protection of lindane treated seed etc. Whatever it took to get the order." Chemtura was consistently "outbid by Syngenta."

[630] *See* Gustafson 2003-2007 Strategic Plan, 17 September 2002 (Annex R-356). *See also* Bill Hallatt, Gustafson Marketing Plan for Canola Seed Protectants - Canada, 9 December 1997 (Annex R-360): "Biotechnology, particularly the development of transgenic varieties…is driving the success or failure of major canola seed companies."

[631] Second Navigant Report, ¶ 79.

3) Export markets LECG relies on have either disappeared or are extremely restricted

349. Navigant has calculated that 26% of LECG's damages are dependent on access to the U.S. market.[632] As already argued above, Canada is not responsible for the independent actions of the U.S. government and is therefore not responsible for any damages LECG is claiming in that country. At the very least, they cannot be argued with any reasonable certainty.

350. Even the Claimant's own expert acknowledges that Canadian canola growers had no interest in using lindane-treated canola seeds unless there was a tolerance for lindane in the U.S.[633] That this was never granted is no fault of Canada. From the canola growers' perspective, once the U.S. lindane-treated canola market ceased to exist, all other lindane-treated export canola markets also became irrelevant. The Claimant's damages claim fails effectively on this basis alone.

351. Even putting aside this key fact, other markets LECG relies on in its damages analysis are not reasonably certain:

- The assumption that Mexico would have harmonized its policies with the U.S. and Canada was made by LECG, and not instructed by Claimant's counsel.[634] It is an extraordinary assumption considering Mexico is an independent country and LECG cites no evidence to back up its claim that Mexico would have granted a tolerance. The only fact that is apparent is that Mexico became a signatory to the NARAP in 2006, which makes LECG's assumption about it all the more unreasonable.[635]
- Exports to Japan are not certain as Japan has some of the strictest MRLs in the world.[636]

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[632] First Navigant Report, ¶ 129.

[633] First LECG Report, ¶¶ 44, 46; Second LECG Report, ¶ 4.

[634] Second LECG Report, ¶ 67.

[635] There is every reason to believe that Mexico would have continued on the path that many other countries have: to phase-out its MRL on lindane. The 2006 NARAP commitment by all three NAFTA countries was a commitment to phase out the use of lindane.

[636] *Introduction of the Positive List System for Agricultural Chemical Residues in Foods*, Department of Food Safety, Ministry of Health, Labour and Welfare (Japan), online at: <http://www.mhlw.go.jp/english/topics/foodsafety/positivelist060228/introduction.html> (Annex R-365).

- LECG has conceded that China has introduced restrictions on lindane-treated products.[637]

- LECG suggests "other markets" would replace disappearing markets, but provides no proof of what markets these may be going forward.[638]

352. Moreover, the evidence in fact suggests the opposite: the market for lindane has been disappearing since the late 1970s. The Stockholm Convention signed in May, 2009 has slated lindane for elimination internationally.[639] The issue of MRLs is becoming academic in light of this ban: when virtually all countries ban lindane, lindane MRLs become increasingly redundant.

F. The LECG Report continues to have numerous mechanical and technical errors

353. The Second Report of Navigant Consulting Inc., submitted by Canada, indentifies a series of conceptual flaws that further undermine the credibility of the LECG Reports. They are:

1. LECG has inappropriately chosen the WACC as the discount rate in this case. Since the investment at issue is the Claimant's equity ownership of Chemtura Canada, the appropriate discount rate should be the cost of equity.[640] The cost of equity is the appropriate risk profile because it represents the investment at issue in this arbitration.[641]

2. LECG's calculation of Chemtura's average market share continues to be flawed as it is based on unreliable and incorrect information.[642]

3. LECG's price assumptions continue to be unrealistic given historical market experience.[643]

The Claimant has not provided any evidence to suggest Canadian canola exports would meet this strict MRL standard.

[637] Second LECG Report, ¶ 67.

[638] Any damages that rely on exports to the European Union must be ignored as this export market is not currently active. Canadian canola has not been exported to the European Union since 1998. The Europeans have rejected Canadian canola because of the fact that it is genetically modified. See Second Affidavit of Tony Zatylny, ¶ 10.

[639] The Stockholm Convention has 150 country signatories, and is in force.

[640] Second Navigant Report, ¶ 89.

[641] Second Navigant Report, ¶ 90.

[642] Second Navigant Report, ¶¶ 108-110

G. Interest

354. Canada has fully outlined its position on the appropriate measure of interest and timing of interest in its Counter-Memorial. Should the Tribunal find an award of interest is necessary, it should be at a commercially reasonable rate, such as the prevailing Canada or U.S. Treasury Bill rate.[644]

355. Further, if interest is awarded, it should be simple rather than compound interest.[645] In order to justify an award of compound interest, the Claimant has suggested that it needed to borrow money and incur debt as a result of Canada's conduct,[646] but it has provided absolutely no proof of this assertion.

356. Canada has also taken the position that interest should not be awarded before the date of the award. It would be inappropriate to award pre-award interest in the present case if future profits are awarded because "a capital sum cannot be earning interest and notionally employed in earning profits at one and the same time."[647] However, if pre-judgment interest is awarded, it should not be, as LECG claims, at WACC or cost of equity. Such a claim for pre-judgment interest in this case is a secondary claim for lost profits and would result in double recovery.[648] Any pre-award interest should be at a commercially reasonable rate.[649]

H. Costs

357. Canada re-iterates its position on costs as set out in its Counter-Memorial.

358. Canada has expended valuable resources defending a case that has no credible basis. The Claimant has benefited from an extraordinary amount of due process in Canada, while refusing to acknowledge that lindane has no future. Its litigiousness and

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[643] Second Navigant Report, ¶¶ 112-116.
[644] Canada's Counter-Memorial, ¶¶ 1013-1015.
[645] Canada's Counter-Memorial, ¶¶ 1019-1022.
[646] Claimant's Reply, ¶ 685.
[647] *ILC Draft Articles*, Article 38 (Commentary 11) (Annex R-208).
[648] Second Navigant Report, ¶ 104.
[649] Second Navigant Report, ¶ 107.

refusal to accept PMRA's good faith scientific conclusions have drawn the PMRA into a decade of intensive exchanges on this pesticide, bleeding away public resources that could have been allocated to the review of other pesticides.

359. Canada will submit a more detailed submission on costs at the conclusion of the hearing.

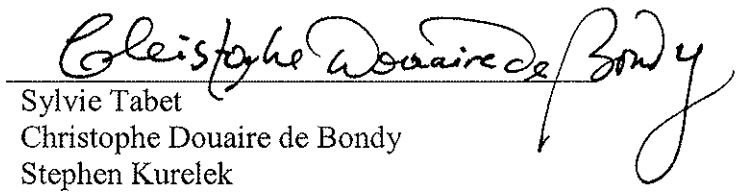
VIII. REQUEST FOR RELIEF

360. For the foregoing reasons, and for the reasons set out in its Counter-Memorial, Canada respectfully requests that this Tribunal render an award:

i) Dismissing the claims of Chemtura in their entirety; and

ii) Ordering that Chemtura bear the costs of the arbitration in full and indemnify Canada for its costs of legal representation.

THE WHOLE RESPECTFULLY SUBMITTED THIS 10th DAY OF JULY 2009.



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