

Ad Hoc NAFTA Arbitration under UNCITRAL Rules

CHEMTURA CORPORATION
(formerly Crompton Corporation)

CLAIMANT

v.

GOVERNMENT OF CANADA

RESPONDENT

AWARD

Rendered by an Arbitral Tribunal composed of:

Prof. Gabrielle Kaufmann-Kohler, Chairperson

The Honorable Charles N. Brower, Arbitrator

Prof. James R. Crawford, Arbitrator

Secretary to the Tribunal:

Dr. Jorge E. Viñuales

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TABLE OF ABBREVIATIONS

Ann.	Annex
Arbitration Rules	UNCITRAL Arbitration Rules
ATIA	Access to Information Act
CCC	Canola Council of Canada
CCGA	Canadian Canola Growers Association
C-Mem.	Respondent's Counter-Memorial of 20 October 2008
CO	Confidentiality Order of 21 January 2008
EPA	Environmental Protection Agency (of the United States of America)
Exh. B-	Exhibit submitted with Alfred Ingulli's witness statement
Exh. [C.]	Claimant's Exhibit
Exh. CC-	Exhibit submitted with Cheryl Chaffey's witness statement
Exh. CF-	Exhibit submitted with Claire Franklin's witness statement
Exh. JB-	Exhibit submitted with Joanne Buth's witness statement
Exh. JW-	Exhibit submitted with John Worgan's witness statement
Exh. NCI-	Exhibit submitted with Brent Kaczmarek's expert report
Exh. [R.]	Respondent's Exhibit
Exh. WS-	Exhibit submitted with Wendy Sexsmith's witness statement
Exh. TZ-	Exhibit submitted with Tony Zatylny's witness statement
FAO	Food and Agriculture Organization
FET	Fair and equitable treatment
FFDCA	Federal Food, Drug and Cosmetic Act
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
FTC Note	Note of Interpretation issued by the NAFTA Free Trade Commission on

31 July 2001

LECG report	LECG Damage Assessment report of 2 June 2008
Mem.	Claimant's Memorial of 2 June 2006
Mem-R.	Claimant's Reply Memorial of 15 May 2009
MFN	Most favoured nation
Minister	The Respondent's Minister of Health
NAFTA	North American Free Trade Agreement
NOA	Notice of Arbitration of 10 February 2005
Parties	Claimant and Respondent
PCA	Permanent Court of Arbitration (The Hague, Netherlands)
PCPA	Pest Control Products Act
PHB Cl.	Claimant's Post-Hearing Brief of 23 October 2009
PHB Resp.	Respondent's Post-Hearing Brief of 23 October 2009
PMRA	Pest Management Regulatory Agency (of Canada)
PO 1	Procedural Order No.1 of 21 January 2008
PO 3	Procedural Order No. 3 of 8 August 2008
PO 4	Procedural Order No. 4 of 18 March 2009
PO 5	Procedural Order No. 5 of 30 July 2009
PO 6	Procedural Order No. 6 of 29 September 2009
RED	Re-registration Eligibility Decision issued on 31 July 2002
Regulations	Pest Control Products Regulations
Rej.	Respondent's Rejoinder of 10 July 2009
Review Board	Lindane Board of Review
ROU	Record of Understanding between Canada and the United States regarding areas of agricultural trade of 2 December 1998
Special Review	Special Review of Pest Control Products Containing Lindane of 15 March 1999

Tr.,[date], [page:line(s)]	Transcript of the hearing on the merits held on 2-8 September 2009, or transcript of the closing hearing held on 17 December 2009
Tribunal	Arbitral Tribunal in the present arbitration
UNCITRAL	United Nations Commission on International Trade Law
WA	Withdrawal Agreement
WHO	World Health Organization

I. SUMMARY OF THE MAIN FACTS

A. THE PARTIES

a. The Claimant

1. The Claimant, Chemtura Corporation, is a corporation established under the laws of the State of Delaware with its head office at Middlebury, Connecticut.
2. The Claimant is represented in this arbitration by
 - Gregory O. Somers, Benjamin P. Bedard, Alison FitzGerald and Renée Thériault; Ogilvy Renault LLP; 45 O'Connor Street; Suite 1500; Ottawa, Ontario K1P 1A4; Canada.

b. The Respondent

3. The Respondent is the Government of Canada.
4. The Respondent is represented in this arbitration by
 - Meg Kinnear (until 8 December 2008). Christophe Douaire de Bondy, Ms. Sylvie Tabet, Mr. Stephen Kurelek, Ms. Yasmin Shaker, Ms. Christina Beharry, Ms. Carolyn Elliott-Magwood, Mr. Mark Luz, Ms. Celine Levesque; Trade Law Bureau (JLT); Government of Canada; Lester B. Pearson Building, Flr. C7; 125 Sussex Drive; Ottawa ON K1A 0G2; Canada.

B. BACKGROUND FACTS

5. The following summary is meant to give a general overview of the present dispute. It does not claim to include all factual aspects which will later turn out to be of relevance, particularly as they emerged from the extensive testimony of witnesses and experts at the hearing. The latter will be discussed, as far as relevant, in the context of the Tribunal's analysis of the disputed issues.

a. Background

6. Lindane is a pesticide that was first registered on the Canadian market in 1938 (Mem., para. 41; C-Mem., para. 24). In 1979-1980, Uniroyal Canada¹ developed and registered a flowable version of lindane (Vitavax rs Flowable) (Mem., para. 41; C-Mem., para. 48).
7. Lindane-based products were used notably on canola (Mem., para. 10; C-Mem., para. 49). The use of lindane on canola was not approved in the United States (Mem., para. 53; C-Mem., para. 39) and, therefore, lindane-based products could not be sold or distributed (including through importation) in the United States as a seed treatment for canola (Exh. B-9).
8. As a result of the risks associated with the use of lindane, many steps have been taken to restrict the use of lindane on an international level in the last decades (C-Mem., para. 34).
9. Crop protection products in Canada are regulated by the Pest Control Products Act ("PCPA") and the Pest Control Products Regulations (the "Regulations") (Ann. R-1, R-2)²(Mem., para. 11; C-Mem., para. 19). Subsection 5(1) of the PCPA provides that "[n]o person shall sell in or import into Canada any control product unless the product (a) has been registered as prescribed; (b) conforms to prescribed standards; and (c) is packaged and labelled as prescribed". Subsection 5(2) of the PCPA provided that "[n]o person shall export out of Canada, or send or convey from one province to another any

¹ The following clarifications regarding the Claimant (C-Mem., tab D) may be useful. Uniroyal Canada Co./Cie ("Uniroyal Canada") was an indirect, wholly-owned subsidiary of Uniroyal Chemical Company ("Uniroyal"), which was bought in August 1996 by Crompton & Knowles, later renamed Crompton Corporation ("Crompton"). Prior to 1989, Uniroyal Canada sold directly to Canadian wholesalers and distributors. From 1989 onwards, Uniroyal Canada began to sell through "Gustafson", an unincorporated business of Uniroyal Canada (from November 1998 to March 2004, Gustafson operated as a partnership "Gustafson Partnership", which is to be distinguished from Gustafson Incorporated, a wholly owned subsidiary of Uniroyal Chemical Corporation and later of Crompton & Knowles. In November 1998 Bayer Corporation bought 50% of Gustafson Incorporated. The latter then became Gustafson LL.C., and a wholly owned subsidiary of Bayer Corporation in March 2004). After January 24, 2001, Uniroyal Canada took the name of Crompton Co./Cie ("Crompton Canada"). Shortly after Crompton changed its name to Chemtura Corporation ("Chemtura") in July 2005, Crompton Canada also changed its name to Chemtura Canada Co./Cie ("Chemtura Canada") in April 2006. The Claimant is Chemtura (formerly Crompton). In this award, the Tribunal will refer indistinctly to the "Claimant", except in those cases where it deems it necessary to be more specific.

² Mention is made that the PCPA was in force from 1997 to 13 October 2004 and the Regulations from 16 April 1997 to 27 August 2001. See Mem. Ann. A, to the effect that the PCPA was repealed and replaced by new legislation in 2006 but that the events that gave rise to this claim occurred prior to the entry into force of the new legislation. See also C-Mem. p.10, footnote 6.

prescribed control product unless the product was manufactured in an establishment that (a) complied with prescribed conditions; and (b) was registered and operated as prescribed."

10. The Pest Management Regulatory Agency ("PMRA"), established in April 1995, is the federal agency responsible for the regulation of pest control products in Canada. Its primary objective is to prevent unacceptable risks to people and the environment from the use of pest control products (Ann. R-1, R-29) and to ensure that only those pest control products that are determined to be of acceptable value are approved for use in Canada (Ann. R-11).

b. The origin of the present dispute

11. On 17 September 1997, the U.S. Environmental Protection Agency ("EPA") was contacted by Mr. E. L. Moore, Executive Vice President of Gustafson Incorporated³, regarding the lawfulness of importation into the United States of certain products, including lindane (Exh. B-2; Mem., para. 62; C-Mem., para. 61; Ann. A).
12. On 12 January 1998, the EPA wrote in response to Mr. Moore's letter that it was illegal to import canola seeds treated with unregistered pesticides under the Federal Insecticide Fungicide and Rodenticide Act ("FIFRA") (Exh. B-3; Mem., para. 62; C-Mem., para. 63; Ann. B).
13. On 12 March 1998, the EPA announced that it would allow U.S. farmers to continue to import lindane-treated canola seed from Canada only until 1 June 1998 (C-Mem., para. 73; Exh. TZ-8).
14. At the time, the Claimant was one of four registrants in Canada of lindane-based pesticides (Mem., para. 101; C-Mem., para. 44).

³ Gustafson was at the time the Claimant's wholly-owned subsidiary (Mem., p. 20 footnote 52; C-Mem., p. 28).

c. The Withdrawal Agreement⁴

15. On 28 October 1998, the Claimant and other registrants of canola seed protectants were reportedly contacted by the Canadian Canola Growers Association (the "CCGA") and the Canola Council of Canada (the "CCC"), two national industry groups, regarding an expressed concern over the threat of potential trade restrictions and negative controversy related to seed protectants used in the production of canola. As a response to this threat, both the CCGA and CCC requested that all registrants of canola seed protectants participate in a plan to voluntarily remove canola from the registered uses of lindane-containing products (Exh. R-16).
16. On 26 November 1998, the CCGA informed the PMRA that the four registrants of seed treatments containing lindane had agreed to voluntarily remove canola/rapeseed claims from labels of registered canola seed treatments containing lindane by 31 December 1999 and that commercial stocks of products containing lindane for use on canola and lindane treated canola seed could not be used after 1 July 2001 (Exh. B-12).
17. On 2 December 1998, Canada and the United States entered into a Record of Understanding regarding areas of agricultural trade (the "ROU") (Exh. B-13; Mem. para. 74; C-Mem., para. 100). The ROU contains *inter alia* the following language:

Canadian canola growers have requested Canadian registrants to agree voluntarily to remove canola/rapeseed claims from labels of registered canola seed treatments containing lindane by December 31, 1999. All commercial stocks [of pesticide] containing lindane for use on canola and lindane treated canola seed would not be used after July 1, 2001. This is contingent on registrants requesting voluntary removal. EPA, PMRA, growers and registrants will continue to work together to facilitate access to replacement products" (Mem., para. 75; C-Mem., para. 100).
18. On 17 December 1998, the Claimant confirmed its agreement to voluntarily remove canola from the product labels of its seed protectants that contained lindane insecticide by the end of 1999 subject to a number of provisions, including *inter alia* that (i) 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, (ii) the PMRA approve the registrations of "Gaucho 75ST" and "Gaucho 480" for use on canola for

⁴ The Claimant refers to the "Conditional Withdrawal Agreement" (the "CWA") whereas the Respondent uses the term "Voluntary Withdrawal Agreement" (the "VWA"). The Tribunal will use the term "Withdrawal Agreement".

planting in Canada at least six months prior to the withdrawal of canola from the labels of the affected lindane-based seed treatments, (iii) that several registrations be issued, including a "lindane substitution" product by 1 July 1999, and that (iv) if a tolerance were to be established in the U.S. for lindane in canola prior to the end of 1999, thereby removing the potential threat to trade, the Claimant would reconsider its offer to voluntarily remove canola from the labels of its lindane based products (Exh. B-14).

19. On 2 March 1999, the Claimant stated that it would not voluntarily withdraw canola/rapeseed from the labels of its seed treatments that contain lindane unless it had suitable alternative products registered to replace them (Exh. B-16). The PMRA responded on 25 March 1999, stating that, although the Withdrawal Agreement did not promise registration of replacements for lindane seed treatments for Canada, it was committed to working with growers and registrants to facilitate access to alternatives (Exh. B-17)⁵.
20. In the course of 1998 and 1999, letters were exchanged between the Claimant and the PMRA regarding the conditions under which the former would agree to withdraw canola use from its lindane registrations (Ingulli Statement, para. 43; Mem. Para. 81). The Claimant has argued that some of the final conditions agreed with the PMRA were embodied in the exchange of letters of 27 and 28 October 1999 between the Claimant and the PMRA, which agreement was within the discretionary mandate of the PMRA (PHB Cl., para. 75). This issue is disputed and will be discussed, as relevant, in the Tribunal's analysis of the Claimant's specific claims.

d. The Special Review

21. On 15 March 1999, the PMRA announced a Special Review of Pest Control Products Containing Lindane ("Special Review") under Section 19 of the Regulations (Exh. B-17, Mem., para. 141; C-Mem., para. 278). In its announcement, the PMRA specified that "[t]he scope of issues surrounding Lindane is potentially broad" (Mem., para. 141; C-Mem., para. 318). An update on the Special Review of lindane and on the status of lindane registrations was provided on 5 April 2002 (Exh. B-62).

⁵ See Exh. B-18 for the Claimant's attempt to defer the Withdrawal Agreement until 31 December 2000. See also Exh. B-19 where the Claimant specified that in the event that the PMRA determined that lindane was safe to be used on canola as a seed treatment or that the U.S. EPA should issue a canola tolerance or determine that lindane was exempt from requiring a tolerance in canola, the Claimant reserved the right to resume manufacturing of lindane products for use on canola. See further Exh. B-20.

22. According to the Claimant, on 28 October 1999, a Withdrawal Agreement was entered into between the Claimant and the PMRA (Mem. p. 212). As already noted, this is a disputed fact to which the Tribunal will revert.
23. On 31 December 1999, the Claimant ceased manufacture of lindane products for canola use in Canada and canola use was removed from its labels (Mem. p. 212).
24. In November 2000, a meeting was held between the PMRA and canola growers and seed treaters during which the enforcement policies of the PMRA were discussed among other topics (Mem. para. 118; C-Mem. para. 196-197).
25. Issues of fairness in the conduct of the Special Review by the PMRA arose (Exh. A-4, p.14) and, as of 4 April 2001, the Claimant began the first of a series of Federal Court applications for judicial review (Mem. Ann. B, p.212; C-Mem., para. 208; Ann. R-54).
26. On 8 May 2001, the Claimant filed a request with the PMRA for reinstatement of canola use on its lindane labels (Exh. B-53; Mem., para. 149; C-Mem., para. 213). The PMRA replied on 29 May 2001 that it believed that "the conditions under which [Crompton Canada] can properly require reinstatement to its lindane product registrations of the canola/rapeseed use have not yet been met and that to grant your request at this time would not be consistent with the terms of the voluntary agreement" (Exh. B-55; Mem., para. 150; C-Mem., para. 217). The Claimant challenged this refusal before the Federal Court of Canada (Mem., Ann. B, p. 212; C-Mem., para. 219).
27. The Special Review was expected to be completed by December 2000 (Exh. A4 p.2; Mem., para. 143; C-Mem., para. 334). Completion was, however, delayed until October 2001 (Exh. A4 p.2, Exh. B-60).
28. On 26 October 2001, the PMRA released its Occupational Exposure Assessment on lindane (Exh. B-55; Mem., para. 152).
29. On 30 October and 5 November 2001, the PMRA announced that it had completed the Special Review and that it had formed the view that the risk assessment findings warranted regulatory action by way of suspension or termination of lindane registrations (Exh. A-4, para. 7).

e. The termination of the registrations

30. On 19 December 2001, the PMRA, considering that there remained significant concerns regarding the adequacy of the margin of exposure for workers during seed treatment and handling of treated seed both on-farm and in commercial seed treatment facilities, determined that termination of lindane products was warranted and could be effected through phase-out by suspension of registrations or voluntary discontinuation (Exh. B-56, B-57). If the Claimant chose to voluntarily discontinue the sale of its products, a letter of discontinuation was to be submitted to the PMRA within a specific time-limit (Exh. B-57; B-59).
31. On 28 December 2001, the Claimant discontinued its pending application against the Minister of Health (the "Minister") and the Minister of Agriculture and Agri-Food (Ann. R-72).
32. At the beginning of 2002, in a letter of 11 February and on the basis of the results of the Special Review of pest control products containing lindane, the PMRA informed the Claimant that the five registrations mentioned therein had to be terminated through suspension, on the ground that the safety of the control products was no longer acceptable (Mem. p. 85; C-Mem., p. 134; Ann. R-307; Exh. B-59).
33. On the same day, the PMRA also informed the Claimant that it had completed the Special Review of pest control products containing lindane under Section 19 of the Regulations (Exh. B-60).
34. On 21 February 2002, the PMRA advised the Claimant that its remaining registrations for lindane products were terminated through suspension (Exh. A-4 p. 2; Mem., para. 163; C-Mem., para. 364).

f. The Board of Review

35. By letters of 18 February and 14 March 2002 to the Minister, the Claimant requested the establishment of a Review Board (Exh. WS-64, WS-65; Mem., para. 259; C-Mem., para. 371).
36. The Minister replied on 6 May 2002 that the Claimant's request for review had been referred to the PMRA for appropriate action (Mem., para. 261; C-Mem., para. 373).

37. On 3 June 2002, the Claimant expressed to the Minister its concerns about this referral (Mem., para. 262; C-Mem., para. 373). Without waiting for a response from the Minister, on 12 June 2002, the Claimant brought an application before the Federal Court of Canada challenging the Minister's decision to refer the review request to the PMRA (Mem., para. 263; C-Mem., para. 374).
38. On 22 October 2003, the Minister informed the Claimant that a Lindane Board of Review (the "Board of Review") had been established (Mem. Annex. B; C-Mem., para. 381).
39. The Board of Review began its work in May 2004 (Exh. A-4 p.2; Mem., para. 263; C-Mem., para. 383). Pursuant to Section 24 of the Regulations (C.R.C. c.1253), it was given the mandate by the Minister to review the decisions made by the PMRA on 11 and 21 February 2002 and on 8 September 2003 to the effect that the occupational health risks associated with the use of lindane products were not acceptable (Ann. R-125).
40. The Board of Review released its Report on 17 August 2005 (Mem., para. 273; C-Mem., para. 396). Regarding the process of the Special Review, the Board of Review recommended that the PMRA reconsider potential opportunities for mitigating its concern for health related issues associated with the use of lindane. It further recommended that during its deliberations, the PMRA should seek and consider input from the Claimant as well as from other interested parties (Exh. A-4 p.51). The Board of Review also stated certain conclusions regarding toxicological issues and recommended that the Minister direct the PMRA to consult with the Claimant in order to take into account any available mitigation measures and to consider the possibility of a mitigation strategy that might result in labels and practices for use acceptable to the PMRA (Exh. A-4, pp. 50-55).

g. The Re-evaluation process

41. Following the Report of the Board of Review, the PMRA launched a re-evaluation process and asked the registrants of affected lindane products to submit data or information that could be useful in conducting such a re-evaluation (Exh. JW-37). During March and April 2006, five registrants, including the Claimant, asked for further information regarding the process as well as for an extension of the deadline to submit their reply (Exh. JW-47, JW-48, JW-49, JW-50, JW-51).

42. On 26 April 2006, the PMRA issued a public Information Note outlining the actions contemplated to implement the recommendations of the Board of Review (Exh. JW-43). On 28 April 2006, the then re-evaluation coordinator, Marisa Romano, wrote an email to the affected lindane registrants extending the deadline for submission of information to 31 July 2006 (Exh. JW-52). In a subsequent email, Ms. Romano further specified that the PMRA had started a review of its policy concerning the use of uncertainty and safety factors in risk assessment before the issuance of the Report of the Board of Review, and noted that such review would include public and stakeholder consultation (Exh. JW-55).
43. Throughout the process, the Claimant submitted information in three instalments. First, on 14 July 2006, the Claimant gave the PMRA access to certain studies and data, including those submitted to the EPA (Exh. JW-56; Exh. R-310). Second, on 21 July 2006, the Claimant submitted further information, including a report on lindane risk mitigation. The Claimant noted that it had "a new occupational exposure study for on-farm seed treating in progress" that would be available in the first quarter of 2007 (Exh. JW-57). Third, on 4 August 2006, the Claimant filed another instalment of studies on lindane as well as a list of studies still outstanding (Exh. JW-60).
44. During the last months of 2006, the PMRA prepared the schedule of the review and granted a number of extensions to the Claimant for the submission of the new occupational exposure study for on-farm seed treating (Exh. JW-63, JW-65, JW-68). The occupational exposure study was received in the first half of March 2007 (Exh. JW-69). Throughout 2007, the PMRA prepared a first draft Re-evaluation Note (the "REN") which, was circulated internally for comments in December of that year (Exh. JW-77, JW-80). The draft was then adjusted to incorporate the ongoing results of the review of uncertainty and safety factors and circulated to affected registrants between the end of April and the beginning of May 2008 for additional comments (Exh. JW-83, JW-84, JW-85, JW-86, JW-87, JW-88, JW-89, JW-90, JW-91, JW-92). The draft REN reached similar conclusions as the Special Review on the risks presented by lindane.
45. An exchange of letters followed. The Claimant commented on the draft REN in a letter of 27 June 2008 (Exh. JW-95), noting *inter alia* that the uncertainty factors used in the draft REN were in contrast with the findings of the EPA and the Board of Review, and that the PMRA had proceeded without dialog on the exposure study and the potential for occupational risk mitigation measures available. It asked for further consultations. The PMRA replied to the Claimant's letter on 6 August 2008, rejecting the Claimant's

contentions as to the absence of dialog, specifying the opportunities given the Claimant to submit information, and offering a further opportunity (Exh. JW-97). The Claimant replied requesting a meeting with the PMRA staff to discuss the interpretation of the worker exposure study already submitted (Exh. JW-98). On 30 September 2008, noting that the Claimant had not availed itself of the opportunity to submit further information, the PMRA completed its response to the Claimant's comments addressing at length the different issues raised by the Claimant in its letter of 27 June 2008 (Exh. JW-99). Thereafter, a meeting was organized between representatives of the Claimant and PMRA officials in the presence of counsel to both Parties in this arbitration.

h. The situation in the United States

46. On 31 July 2002, the EPA issued the Re-registration Eligibility Decision (the "RED") on lindane (Ann. R-34; Mem., para. 294; C-Mem., para. 455). The EPA decided to "revoke all existing lindane tolerances because all lindane products for which the tolerances were originally established have been cancelled" (Ann. R-34).
47. In July 2006, an Addendum to the 2002 RED was established (Exh. C-2). It addressed the issue whether pesticide products containing the active ingredient lindane were eligible for re-registration under the FIFRA and whether existing tolerances for residues of lindane in food and feed were safe under the provisions of the Federal Food, Drug and Cosmetic Act (FFDCA). In light of several factors, the EPA concluded that the six lindane seed treatment uses were not eligible for re-registration (Exh. C-2, p.3).
48. Prior to the EPA'S 2006 Addendum to the 2002 RED, the Claimant had withdrawn its registrations (Mem., para. 291; C-Mem., para. 466). Following such withdrawal, the EPA advised the Claimant on 4 October 2006 that the registrations were cancelled with effect on 1 July 2007 (R-312).
49. On 13 December 2006, the EPA then announced the issuance of final orders cancelling the registration of all pesticide products containing the pesticide lindane. It specified that the cancellation of manufacturing-use product registrations was effective as of 4 October 2006 and that the last date of use would be 1 July 2007. It also stated that the cancellation of end-use product registrations would become effective on 1 July 2007 with the last date of use being 1 October 2009 (R-49; C-Mem., para. 467).

II. PROCEDURAL HISTORY

A. INITIAL PHASE

50. The Claimant filed Notices of Intent to Submit a Claim to Arbitration on 6 November 2001 and on 4 April 2002. It then filed a Notice of Arbitration in respect of those Notices of Intent, on 17 October 2002. It filed a third Notice of Intent on 19 September 2002, followed by a Notice of Arbitration (the "NOA") on 10 February 2005.
51. Pursuant to Article 3 of the United Nations Commission on International Trade Law ("UNCITRAL") Arbitration Rules and Articles 1116, 1117 and 1120 of the North American Free Trade Agreement ("NAFTA"), the Claimant initiated recourse to arbitration under the UNCITRAL Arbitration Rules.
52. In the NOA, the Claimant invoked the provisions of NAFTA and sought the following relief:

Pursuant to Article 1135(b) ... by way of restitution the

- (a) reinstatement of all registrations relating to its lindane products; and
- (b) such damages, costs, interest, and amounts for tax consequences as described below, both past and future, resulting from Canada's breaches which cannot adequately be compensated by restitution.

Alternatively, pursuant to Article 1135(a) ...

- (i) An award in the amount of approximately \$100 million (U.S.) or damages caused by Canada's breaches of its obligations under Chapter 11 NAFTA for, without limitation, loss of sales, profits, goodwill, investment and other costs related to the products arising from the breaches. These damages are suffered by the Claimant and its enterprise.
- (ii) Costs associated with these proceedings including counsel, expert and arbitration fees and disbursements.
- (iii) Pre and post-judgment interest at a rate to be fixed by the arbitrators.
- (iv) Amounts for tax consequences of the award sufficient to maintain the integrity of the award on a net-net basis.
- (v) Such further and other relief as counsel may advise or as may be deemed just.

The relief and damages claimed in this Notice of Arbitration are separate from, and in addition to, the relief and damages claimed in the 17 October 2002 Notice of Arbitration (NOA, para. 46-49).

53. On 7 December 2007, the Parties jointly submitted draft procedural and confidentiality orders.
54. On 12 December 2007, the Tribunal notified the Parties that the first session would be held on 9 January 2008 in Washington D.C. and invited the Parties to make submissions, by 3 January 2008, on the issues they wished to discuss at the first session.
55. On 21 December 2007, the Tribunal submitted a draft procedural order based on the draft sent by the Parties.
56. On 3 January 2008, the Respondent filed its Submission on Certain Procedural Matters to be reviewed at the hearing of 9 January 2008, together with related authorities and supporting documents.
57. The hearing was held as scheduled on 9 January 2008 in Washington D.C. At the hearing, the Tribunal and the Parties discussed the draft procedural and confidentiality orders as well as other procedural and logistical matters.
58. In a letter of 21 January 2008, the Tribunal enclosed *inter alia* Procedural Order No. 1 ("PO 1"), a Confidentiality Order ("CO"), the Chairperson's declaration of independence, as well as the résumé of Ms Aurélia Antonietti, the Secretary to the Tribunal, and a confirmation of her independence. The Tribunal also mentioned the query of the Permanent Court of Arbitration ("PCA") regarding the posting of the names of the disputing Parties, counsel, Tribunal members and Secretary, on the PCA home page under pending cases. Both Parties agreed on 23 January 2008.
59. On 18 January 2008, Professor Crawford informed the Tribunal that his declaration had been sent directly to the Parties. In a letter to the Parties dated 23 January 2008, the Tribunal attached Judge Brower's declaration of independence.
60. On 27 February 2008, the Respondent informed the Tribunal and the Claimant that, pursuant to Paragraph 8 of the CO, the Department of Justice, the Department of Foreign Affairs and International Trade Canada, Environment Canada and Health Canada had received requests pursuant to the Access to Information Act ("ATIA"). For reference, the Respondent compiled a chart setting out the details of the timing and

scope of such requests. On 28 April 2008, the Respondent informed of two additional requests under the ATIA.

61. On 28 February 2008, the Tribunal confirmed its acceptance of Ottawa as the place of the hearing as proposed by the Parties in a joint letter of 26 February 2008.

B. WRITTEN PROCEEDINGS

62. On 2 June 2008 and in accordance with PO 1, the Claimant submitted its Memorial, Statements of Evidence of Alfred F. Ingulli, Paul Thomson, John Kibbee and Edwin L. Johnson, Expert Reports of Manuel Abdala, Andrés Chambouleyron, Pablo Spiller and James V. Abdala, and exhibits and legal authorities. On 23 June 2008, the Claimant produced the redacted form of such submission.
63. On 2 July 2008, the Respondent, pursuant to Article 7 of the CO, communicated its objections to certain of the Claimant's designations as 'confidential' of materials communicated by the Claimant on 23 June 2008. On 7 July 2008, the Tribunal invited the Claimant to reply no later than 18 July 2008, which the latter did on 17 July 2008.
64. On 3 July 2008, the Claimant communicated its responses to the Respondent's requests for documents pertaining to the LECG Damages Assessment dated 2 June 2008 ("LECG report")⁶.
65. On 7 July 2008, the Tribunal wrote to the Parties proposing that Dr. Jorge E. Vinuales, whose CV was included, replace Ms. Aurélia Antonietti as the Secretary to the Tribunal. The Parties agreed with the Tribunal's proposal on 7 and 8 July 2008 respectively. On 9 July 2008, the Tribunal submitted to the Parties Dr. Vinuales's declaration of independence.
66. On 8 August 2008, the Tribunal issued Procedural Order No. 3 ("PO 3") ruling on the Respondent's objections to the confidentiality designations made by the Claimant.
67. On 11 August 2008, the Respondent requested a clarification regarding the Claimant's designation as confidential of all references to the amount of damages claimed

⁶ The LECG report can be found in the binder which includes Exhibits B-1 - B-25.

appearing in the redacted version of the Memorial and appended documents, the issue of redacting damage amounts not being addressed in PO 3.

68. On 12 August 2008, the Tribunal invited the Claimant to submit a reply on the clarification requested by the Respondent by no later than 14 August 2008. The Claimant submitted its reply on 14 August 2008 and requested the Tribunal to confirm that the information in question had been properly designated as confidential.
69. On 15 August 2008, the Tribunal considered that such confidentiality designations were not in accordance with the CO. Section 3 of PO 3 was therefore supplemented to the effect that all references in the Claimant's memorial and appended documents to the amounts of damages sought by the Claimant in this arbitration could not be maintained and were accordingly lifted. The Tribunal also ruled that the Claimant had to provide revised redacted versions of the Memorial and appended documents.
70. On 18 August 2008, the Respondent informed the Tribunal of the documentation it intended to make publicly available pursuant to paragraph 11 of the CO, once it had received the Claimant's revised redacted submissions.
71. On 29 August 2008, pursuant to the Tribunal's ruling of 15 August 2008, the Claimant submitted revised redacted submissions, disclosing the amounts of damages sought by the Claimant in this arbitration.
72. On 20 October 2008, the Respondent, in accordance with PO 1, submitted its Counter-Memorial, affidavits of JoAnne Buth, Cheryl Chaffey, Suzanne Chalifour, Dr. Claire Franklin, Jim Reid, Wendy Sexsmith, John Worgan and Tony Zatylny (with corrections of 7 November 2008), expert reports of Dr. Lucio Costa, Dr. Lynn Goldman and Brent Kaczmarek, together with exhibits and legal authorities. On 7 November 2008, the Respondent, pursuant to paragraph 3 of the CO, submitted redacted excerpts from its Counter-Memorial and related affidavits, expert reports, and other supporting documents.
73. On 5 December 2008 in accordance with PO 1, both Parties submitted a Redfern Schedule comprising their requests for document production.
74. On 23 January 2009, pursuant to paragraphs 37, 42 and 43 of PO 1, the Respondent replied to the Claimant's request for documents of 5 December 2008. On the same

date, the Claimant submitted its objections to the Respondent's request for document production. The Respondent replied to these objections on 26 January 2009, and proposed a revision of the timetable. On 30 January 2009, the Tribunal agreed with the timetable revision.

75. Exchanges of correspondence with respect to requests for document production ensued during February 2009.
76. On 18 March 2009, the Tribunal issued Procedural Order No. 4 ("PO 4") with its Appendices, ruling on the document production requests and objections of the Parties.
77. On 17 April 2009, the United States, pursuant to Article 1128 of NAFTA and in connection with PO 1, reserved its right to make a submission on a question of interpretation of NAFTA.
78. On 15 May 2009 in accordance with PO 1, the Claimant produced its Reply Memorial, Reply Statements of Evidence of Alfred F. Ingulli, Paul Thomson, John Kibbee, Edwin L. Johnson, and Expert Reply Reports of Manuel Abdala, Andrés Chamboleyron, Pablo Spiller, James V. Aidala, together with exhibits and legal authorities. On 4 June 2009, the Claimant submitted the redacted version of its Reply Memorial.
79. On 10 July 2009 in accordance with PO 1, the Respondent submitted its Rejoinder Memorial, Rejoinder Affidavits of JoAnne Buth, Cheryl Chaffey, Suzanne Chalifour, Dr. Peter Chan, Dr. Claire Franklin, Wendy Sexsmith, John Worgan, Tony Zatylny, and Expert Reports of Dr. Lucio Costa, Dr. Lynn Goldman, and Navigant Consulting Inc, together with four volumes of contemporary and legal annexes. On 30 July 2009, the Respondent submitted redacted excerpts from its Rejoinder, related affidavits, expert reports, and other supporting documents.
80. By letter of 15 July 2009, Mexico advised that it intended to make a submission in accordance with Article 1128 of NAFTA.
81. By letter of 17 July 2009, the Claimant requested that the Tribunal admit 9 additional exhibits into the record. The Respondent replied to this request on 24 July 2009.

82. On 30 July 2009, the Tribunal issued Procedural Order No. 5 ("PO 5") addressing the organization of the hearing, interventions pursuant to Article 1128 of NAFTA and the Claimant's request of 17 July 2009.
83. In accordance with PO 1, on 20 July 2009 the Tribunal held a pre-hearing telephone conference with the Parties to address outstanding organizational and procedural matters in connection with the hearing.

C. THE HEARINGS AND FINAL PROCEDURAL STEPS

84. The Tribunal held the hearing on the merits from 2 to 8 September 2009 at the Government Conference Centre in Ottawa, Canada. At the hearing, the following persons appeared before the Tribunal:
- (i) On behalf of the Claimant:
 - Mr. Gregory O. Somers; Ogilvy Renault LLP
 - Mr. Benjamin P. Bedard; Ogilvy Renault LLP
 - Ms. Alison Fitzgerald; Ogilvy Renault LLP
 - Ms. Rénée Thériault; Ogilvy Renault LLP
 - (ii) On behalf of the Respondent:
 - Mr. Christophe Douaire de Bondy; DFAIT, Trade Law Bureau
 - Mr. Stephen Kurelek; DFAIT, Trade Law Bureau
 - Ms. Yasmin Shaker; DFAIT, Trade Law Bureau
 - Ms. Christina Beharry; DFAIT, Trade Law Bureau
 - Ms. Carolyn Elliott-Magwood; DFAIT, Trade Law Bureau
 - Ms. Sylvie Tabet; DFAIT, Trade Law Bureau
 - Mr. Mark Luz; DFAIT, Trade Law Bureau
 - Ms. Céline M. Levesque; DFAIT, Trade Law Bureau
85. The hearing on the merits was transcribed and the transcript was distributed to the Parties at the end of each day. The complete version of the *verbatim* transcript was later distributed to the Parties.
86. At the end of the hearing on the merits, after consultation with the Parties, the Tribunal issued directions regarding the further procedural steps. These directions were summarized in Procedural Order No. 6, of 29 September 2009 ("PO 6").

87. In accordance with PO 6, the Parties submitted simultaneous post-hearing briefs on 23 October 2009 (PHB Cl. and PHB Resp).
88. Also in accordance with PO 6, on 17 December 2009, a hearing was held at the Government Conference Centre, in Ottawa, for the presentation of the Parties' closing arguments. At the closing hearing, the following persons appeared before the Tribunal:
- (i) On behalf of the Claimant:
 - Mr. Gregory O. Somers; Ogilvy Renault LLP
 - Mr. Benjamin P. Bedard; Ogilvy Renault LLP
 - Ms. Alison Fitzgerald; Ogilvy Renault LLP
 - Ms. Rénée Thériault; Ogilvy Renault LLP
 - (ii) On behalf of the Respondent:
 - Mr. Christophe Douaire de Bondy; DFAIT, Trade Law Bureau
 - Mr. Stephen Kurelek; DFAIT, Trade Law Bureau
 - Ms. Yasmin Shaker; DFAIT, Trade Law Bureau
 - Ms. Christina Beharry; DFAIT, Trade Law Bureau
 - Ms. Carolyn Elliott-Magwood; DFAIT, Trade Law Bureau
 - Ms. Sylvie Tabet; DFAIT, Trade Law Bureau
 - Mr. Mark Luz; DFAIT, Trade Law Bureau
 - Ms. Celine M. Levesque; DFAIT, Trade Law Bureau
89. The closing hearing was transcribed and the *verbatim* transcript was later distributed to the Parties.
90. Following consultation with the Parties at the end of the closing hearing, by letter of 23 December 2009, the Tribunal closed the hearings phase of the proceedings and directed the Parties to submit their statements of cost by 15 February 2010.
91. On 15 February 2010, both Parties submitted their statements of costs.

III. POSITION OF THE PARTIES AND REQUESTS FOR RELIEF

A. CLAIMANT

92. The Claimant argues in essence that Canada has breached its obligations under NAFTA Articles 1105 (minimum standard of treatment), 1103 (most favored nation clause, as the basis for the import of a more favorable free-standing fair and equitable treatment clause), and 1110 (expropriation).
93. More specifically, the Claimant argues that Canada has breached Articles 1105 and 1103 of NAFTA in conducting a flawed review of its lindane registrations and thwarting its attempts at having such review re-evaluated in accordance with the law, in prohibiting the planting of lindane treated seed after 1 July 2001 despite the assurances previously given in the context of the Withdrawal Agreement, in not granting the treatment agreed for the registration process of the replacement product Gaucho CS FL, and in proceeding to the cancellation of its lindane registrations, including for use on canola. The Claimant further argues that the cancellations of its lindane registrations were in breach of Article 1110 of NAFTA.
94. On this basis, it claims damages in the amount of US\$ 83,139,672, plus compound interest on the amount awarded to be computed at a rate deemed appropriate by the Tribunal from the date of expropriation to the date of payment.
95. In the Reply, the Claimant amended the amount claimed to US\$ 78,593,520, together with pre- and post-award compound interest.
96. In its Post-Hearing Brief, the Claimant requested the following relief:

In summary, the Investor claims:

- (a) Damages for breach of Article 1105, 1103, and/or 1110 in the amount of US\$ 78,593,520
 - (b) Its costs of this arbitration including expert and legal fees, as well as applicable taxes thereon;
 - (c) Pre and post-award compound interest on the amounts claimed above
- (PHB Cl., para. 194).

B. RESPONDENT

97. On the liability issues, the Respondent argues in essence that: (i) it did not expropriate the investment, as there has been no substantial deprivation of Chemtura Canada, and in any event, the conduct of the PMRA is a valid (and non-compensable) exercise of police powers; (ii) the Claimant's conduct triggering the U.S. border closure and its participation in the Withdrawal Agreement estop it from pursuing expropriation claims with respect to lindane use on canola and canola seed; (iii) Canada did not breach the minimum standard of treatment of which the Claimant has not even attempted to establish the content under customary international law; (iv) in any event, the facts overwhelmingly demonstrate that Canada has accorded the Claimant ample due process, conducted itself lawfully and treated the Claimant fairly, and that Canada has complied with Article 1105 of NAFTA in every respect; (v) even if Article 1103 of NAFTA could serve to import a free-standing FET clause from another treaty, *quod non*, the PMRA accorded fair and equitable treatment to Chemtura at all relevant times, no matter how extensively one defines the scope of that standard (C-Mem., para. 16); (vi) Canada never consented to arbitrate the claim under Article 1103 of NAFTA, which has been pleaded for the first time in Chemtura's Memorial (C-Mem., par. 852, 853 ff).
98. On this basis, the Respondent requests in its Post-Hearing Brief that the Tribunal render an award (a) dismissing the claims of Chemtura in their entirety, and (b) ordering that Chemtura bear the costs of the arbitration in full and indemnify Canada for its costs of legal representation (C.-Mem., p. 355; Rej., para. 360; PHB Resp., para. 299).

IV. ANALYSIS

A. PRELIMINARY ISSUES

a. Jurisdiction

99. The Tribunal notes that its jurisdiction to hear the claims brought by the Claimant under Article 1105 and 1110 of NAFTA is not in dispute.
100. The Respondent, however, disputes the jurisdiction of the Tribunal to hear the claim for breach of Article 1103 of NAFTA (C-Mem., para. 852-858). It argues, in essence, that

the Claimant's Memorial "advances an Article 1103 claim that cannot be traced in any way to its Notices of Intent and Arbitration but rather represents an entirely new most-favoured-nation (MFN) theory" (C-Mem., para. 856). As a result, the Respondent argues that the conditions set forth in Articles 1119 and 1122 of NAFTA in connection with its consent to arbitrate a claim are not fulfilled, because the Claimant failed to specify the issues and the factual basis for the claim in its Notices of Intent and Arbitration (C.-Mem., para. 857-858).

101. The Claimant replies that it did identify its claim for breach of Article 1103 of NAFTA in its Notices of Intent and Arbitration and that the narrow requirements to which the Respondent seeks to subject its consent to arbitration are neither supported by the letter of Article 1122 nor by its subsequent interpretation by other NAFTA tribunals (Reply, para. 441-453). The Claimant further argues that "[t]o the extent the MFN argument contained in the Investor's Memorial may be viewed as a 'new' claim (which is denied), such claim is timely presented at the opening of written pleadings and poses no prejudice to Canada in this arbitration" (Reply, para. 453).
102. Article 1122(1) of NAFTA states that: "[e]ach Party consents to the submission of a claim to arbitration in accordance with the procedures set out in this Agreement". Among these procedures, Article 1119 requires, in connection with the form and content of a notice of intent to submit a claim to arbitration, that such notice "shall specify [...] (b) the provisions of this Agreement alleged to have been breached and any other relevant provisions; (c) the issues and the factual basis for the claim". NAFTA tribunals have interpreted these provisions rather broadly "within the context of the objective of NAFTA in establishing investment dispute arbitration in the first place."⁷ As noted by the tribunal in *ADF. v. United States*, to which the Claimant refers, with respect to the requirements set forth in Article 1119(2):

"the notice of intention to submit to arbitration should specify not only 'the provisions of [NAFTA] alleged to have been breached' but also 'any other relevant procedures [of NAFTA].' Which provisions of NAFTA may be regarded as also 'relevant' would depend on, among other things, what arguments are subsequently developed to sustain the legal claims made. We find it difficult to conclude that failure on the part of the investor to set out an exhaustive list of 'other relevant provisions' in its Notice of Intention to Submit a Claim

⁷ Pope & Talbot Inc. v. Canada, UNCITRAL (NAFTA), Award of 7 August 2000, para. 26.

to Arbitration must result in the loss of jurisdiction to consider and rely upon any unlisted but pertinent NAFTA provision in the process of resolving the dispute."⁸

103. The Tribunal sees no reason why the same considerations should not also apply to the circumstances of the present case. Indeed, as acknowledged by the Respondent itself, the second Notice of Intent submitted by the Claimant on 4 April 2002 focused specifically on the alleged breach of Article 1103 (Exh. R-138) and the third Notice of Intent of 19 September 2002 incorporated this claim by reference (Exh. R-139). It is true that the main argument made in such notices in connection with Article 1103 did not concern the potential import of a fair and equitable treatment provision from another treaty through the MFN clause in Article 1103. Yet, the facts mentioned therein are essentially the same as those subsequently referred to in the Claimant's Memorial in support of the claim under Article 1103 (Mem., para. 493-494).
104. More fundamentally, the fact that the Claimant may have advanced arguments in its Memorial which were not spelled out in its previous submissions in connection with Article 1103 has not caused any prejudice to the ability of the Respondent to respond to such arguments. Indeed, the Respondent has had ample opportunity to state its position, and has done so in its briefs and at the hearings.
105. For these reasons, the Tribunal concludes that it has jurisdiction over the claim brought by the Claimant under Article 1103 of NAFTA.

b. Law governing the procedure

106. Pursuant to Section 22 of PO 1, the applicable arbitration rules are the UNCITRAL Arbitration Rules, except to the extent that they are modified by the provisions of Section B of NAFTA Chapter 11.

c. Law governing the merits

107. Pursuant to Section 23 of PO 1 and in accordance with Article 1131 of NAFTA and Article 33 of the UNCITRAL Arbitration Rules, the law governing the merits is the NAFTA and applicable rules of international law.

⁸ ADF Group Inc. v. United States of America, Case No. ARB(AF)/00/1, Award of 9 January 2003, para. 134 (emphasis in the original).

d. Relevance of prior decisions

108. In support of their positions, both Parties have relied extensively on previous decisions and awards of NAFTA and other international tribunals, either to conclude that the same solutions should be adopted in the present case or in an effort to explain why this Tribunal should depart from a certain solution.
109. The Tribunal is not bound by previous decisions of NAFTA or other international tribunals. At the same time, it is of the opinion that it should pay due regard to earlier decisions of such tribunals.⁹ The Tribunal is further of the view that, unless there are compelling reasons to the contrary, it ought to follow solutions established in a series of consistent cases, comparable to the case at hand, but subject of course to the specifics of a given treaty and of the circumstances of the actual case.

B. MINIMUM STANDARD OF TREATMENT

110. At the outset, the Tribunal notes that the Claimant specified the actual measures allegedly in breach of Article 1105 of NAFTA only in its Post-Hearing Brief upon the Tribunal's invitation. The Tribunal will thus structure its analysis of this first claim on the basis of the articulation provided in the Claimant's Post-Hearing Brief. After determining the applicable standard (a), the Tribunal will focus, on the process of review of lindane (b), the scope of the prohibition of planting treated seed after 1 July 2001 (c), the cancellation of the Claimant's lindane registrations on 11 and 21 February 2002 (d), and the treatment of Gaucho CS FL (e).

a. Applicable standard

1. Claimant's position

111. By reference to the Note of Interpretation issued by the Free Trade Commission (FTC) on 31 July 2001 ("FTC Note"), the Claimant argues that the Tribunal must apply the customary international law minimum standard of treatment, the content of which cannot be ascertained in the abstract (PHB Cl., para. 20-21). According to the Claimant, NAFTA tribunals in *Pope & Talbot v. Canada*, *Mondev v. United States*, *ADF*

⁹ On the precedential value of previous arbitral awards, see Gabrielle Kaufmann-Kohler, *Arbitral Precedent: Dream, Necessity or Excuse?*, *The 2006 Freshfields Lecture*, published in *Arbitration International*, Vol. 23, 2007, pp. 357-378.

v. United States, and *UPS v. Canada* have considered that the minimum standard prescribed by customary law is not frozen in time (PHB Cl., para. 24 ff).

112. The Claimant argues that the content of the standard is therefore influenced by treaty practice (Mem. par. 342). In this context, the Claimant proceeds to list different types of conduct that may constitute a breach of Article 1105(1), including (i) a lack of sufficient evidence to support a decision and/or basing a decision on irrelevant considerations, resulting in a decision that is clearly improper and discreditable; (ii) lack of due process, including denial of the right to be heard, leading to an outcome which offends a sense of judicial propriety; (iii) arbitrary, grossly unfair, unjust or idiosyncratic conduct; (iv) breach of an investor's legitimate expectations; (v) lack of transparency and candor in an administrative process; (vi) action taken beyond the scope of lawful authority; (vii) failure to act in good faith; and (viii) failure to ensure a stable and predictable environment for investments. The Claimant submits that such actions, individually and collectively, may constitute a breach of Article 1105(1) of NAFTA (PHB Cl., para. 21; Mem., para. 364).

113. The Claimant further contends that regardless of the circumstances to which Article 1105(1) applies, the minimum standard set forth in such provision is not lessened by a "margin of appreciation" (PHB Cl., para. 35 ff). It refers in this regard to the decisions in *Pope & Talbot v. Canada* and *Glamis Gold v. United States*. The Claimant points in particular to the statement of the latter tribunal according to which the standard of deference is already present in Article 1105 of NAFTA as shown in the modifiers "manifest" and "gross" that make such standard of treatment a stringent one and, therefore, no additional deference is required (PHB Cl., para. 38).

2. Respondent's position

114. The Respondent replies that the Claimant has not even attempted to establish the content of the minimum standard of treatment under customary international law. More specifically, the Respondent argues that the Claimant bears the burden of proving the content of the minimum standard of treatment through evidence of both State practice and *opinio juris* (C-Mem., para. 741 ff). According to the Respondent, instead of establishing such content, the Claimant seeks to import idiosyncratic content into Article 1105 that is not comprehended by the customary international law standard (Mem., para. 16, 665, 666 ff). In particular, all three NAFTA Member States have

expressly rejected the notion that bilateral investment treaties establish customary international law (C-Mem., para. 756 ff);

115. Regarding the content of the standard, the Respondent argues in essence that (i) Article 1105 NAFTA imposes an objective standard of treatment, formulated in the FTC Note which binds NAFTA Chapter 11 tribunals, and not a standard open for definition by future tribunals (C-Mem., para. 670-571); (ii) this standard must be established in customary law (C-Mem., para. 672 ff); (iii) Article 1105 NAFTA sets a high threshold for violation, as noted in *S.D. Myers v. Canada*, *Mondev v. United States*, *ELSI (ICJ)*, *ADF v. United States*, *Waste Management v. Mexico*, *GAMI v. Mexico* and *Thunderbird v. Mexico*; (iv) the customary international minimum standard does not include a requirement of total transparency, and no such requirement stems from Article 1105 NAFTA (C-Mem., para. 835 ff).
116. Moreover, the Respondent submits that tribunals acting under Chapter 11 of NAFTA do not have the authority to review the substance of decisions made by specialized regulatory agencies. By reference to the decisions in *Methanex v. United States* and *Glamis v. United States*, it adds that tribunals must focus on the process that led to a science-based decision when assessing an alleged breach of the international minimum standard of treatment (PHB Resp., para. 11 ff).

3. The Tribunal's determination

117. The Parties disagree on the scope of Article 1105 of NAFTA. This provision states, in relevant part: "Each party shall accord to investments of investors of another party treatment in accordance with international law, including fair and equitable treatment and full protection and security."
118. The scope of this provision has been further specified by the FTC Note, which states in relevant part:

2. Minimum Standard of Treatment in Accordance with International Law.

1. Article 1105(1) prescribes the customary international law minimum standard of treatment of aliens as the minimum standard of treatment to be afforded to investments of investors of another Party.
2. The concepts of 'fair and equitable treatment' and 'full protection and security' do not require treatment in addition to or beyond that which is required by the customary international law minimum standard of treatment of aliens.

3. A determination that there has been a breach of another provision of the NAFTA, or of a separate international agreement, does not establish that there has been a breach of Article 1105(1).

119. Pursuant to Article 1131(2) of NAFTA, "[a]n interpretation by the Commission of a provision of this Agreement shall be binding on a Tribunal established under this Section."
120. It is not disputed that the Tribunal must interpret the scope of Article 1105 in accordance with the FTC Note. However, each party puts forward different conclusions as to the impact of the FTC Note on the scope of Article 1105. The Claimant argues that the reference in the FTC Note to customary international law entails a standard of treatment that has evolved over time as a result *inter alia* of the conclusion of a large number of BITs providing for fair and equitable treatment of investments. The Respondent replies that the conclusion of BITs is not sufficient to build customary international law and that, in all events, the Claimant has failed to establish the content of the customary standards which it invokes. Both Parties have referred to the decisions of a number of NAFTA tribunals to buttress their respective positions.
121. At the outset, the Tribunal notes that it is not disputed that the scope of Article 1105 of NAFTA must be determined by reference to customary international law. Such determination cannot overlook the evolution of customary international law, nor the impact of BITs on this evolution. As noted by the tribunal in *Mondev v. United States*:

[B]oth the substantive and procedural rights of the individual in international law have undergone considerable development. In the light of these developments it is unconvincing to confine the meaning of "fair and equitable treatment" and "full protection and security" of foreign investments to what those terms – had they been current at the time – might have meant in the 1920s when applied to the physical security of an alien. To the modern eye, what is unfair or inequitable need not equate with the outrageous or the egregious. In particular, a State may treat foreign investment unfairly and inequitably without necessarily acting in bad faith. [...]

And further:

[T]he vast number of bilateral and regional investment treaties (more than 2000) almost uniformly provide for fair and equitable treatment of foreign investments, and largely provide for full security and protection of investments. [...] In the Tribunal's view, such a body of concordant practice will necessarily have influenced the content of rules governing the treatment of foreign investment in current international law. [...] It [the term "customary international law"] is not limited to the international law of the 19th century or even of the first half of the 20th century, although decisions from that period remain relevant. In holding that Article 1105(1) refers to customary international law, the FTC interpretations incorporate current international law, whose content is

shaped by the conclusion of more than two thousand bilateral investment treaties and many treaties of friendship and commerce".¹⁰

122. In line with *Mondev*, the Tribunal will take account of the evolution of international customary law in ascertaining the content of the international minimum standard. Such inquiry will be conducted, as necessary, in analyzing each specific measure allegedly in breach of Article 1105 of NAFTA.
123. Before undertaking such analysis, the Tribunal deems it necessary to address an additional question concerning the scope of Article 1105 on which the Parties disagree, i.e. whether the protection granted under this provision is lessened by a margin of appreciation granted to domestic regulatory agencies and, if so, to what extent. Having reviewed the arguments of the Parties, the Tribunal is of the opinion that the assessment of the facts is an integral part of its review under Article 1105 of NAFTA. In assessing whether the treatment afforded to the Claimant's investment was in accordance with the international minimum standard, the Tribunal must take into account all the circumstances, including the fact that certain agencies manage highly specialized domains involving scientific and public policy determinations. This is not an abstract assessment circumscribed by a legal doctrine about the margin of appreciation of specialized regulatory agencies. It is an assessment that must be conducted *in concreto*. The Tribunal will proceed to such assessment *in concreto* when reviewing the specific measures challenged by the Claimant.

b. The Review of Lindane

1. Claimant's position

124. In response to an invitation by a Tribunal, the Claimant identified in its Post-Hearing Brief the specific measures that it considers in breach of Article 1105(1) of NAFTA. For the purposes of the analysis, the first and sixth measures identified by the Claimant, both concerning the review process of lindane, can be treated together.
125. The first measure identified by the Claimant is the conduct, by the Respondent, of a seriously flawed and delayed special review, which according to the Claimant resulted in a breach of Article 1105(1) on 19 December 2001, the date when the PMRA

¹⁰ *Mondev International Ltd. v. United States of America*, ICSID Case No. ARB(AF)/99/2, Award of 11 October 2002, para. 116, 117, 125.

determined that termination of lindane products was warranted and could be effected by way of phase-out by suspension of registrations or by way of voluntary discontinuation (Exh. B-56).

126. According to the Claimant, the flaws that affected the conduct of the Special Review can be summarized as follows: (i) the notice of 15 March 1999 announcing the Special Review was unspecific and provided insufficient information with respect to both the concerns underlying the process and the manner in which registrants could participate (PHB Cl., para. 99); (ii) the PMRA failed to timely complete the Special Review, preventing the Claimant from taking appropriate action in the United States to register or obtain a tolerance for the use of lindane on canola (PHB Cl., para. 101); (iii) the PMRA disingenuously failed to clarify the impact of the occupational risk assessment for the outcome of the Special Review (PHB Cl., para. 102 ff); (iv) the scientific basis for the outcome of the Special Review was insufficient, a fact that suggests that the underlying reasons explaining the outcome are to be found in the political pressures on the PMRA (PHB Cl., para. 106 ff); (v) the PMRA did not request relevant data from registrants, thus depriving the Claimant of the opportunity to comment on use and exposure practices and/or to present an updated occupational risk study before the Special Review reached a conclusion on lindane (PHB Cl., para. 110 ff); (vi) registrants were offered very little time to comment on the Occupational Exposure Assessment once issued; (vii) after the Special Review, the PMRA refused to establish a Board of Review as required by Sections 23 and 24 of the Pest Control Product Regulations (Mem., para. 432 ff).
127. The Claimant further refers to the fact that the independent Review Board that was subsequently established found that the PMRA's Special Review was fundamentally flawed in both its process and conclusions (Mem, paras. 424 ff). In this connection, the Claimant argues that the Tribunal should adopt the conclusions of the Review Board as to the scientific dimensions of the review process, disregarding the scientific evidence provided by Dr. Lucio Costa, the expert witness produced by the Respondent.
128. Finally, the Claimant also argues that the re-evaluation process or REN of lindane conducted following the conclusions of the Review Board was also seriously flawed because:
- [t]he same individual [Mr. John Worgan] who was involved in the Special Review condemning the continued use of lindane and who appeared before the Board, supervised, participated in and approved the re-evaluation of lindane that reached the same negative conclusions. The objectivity of

lindane's re-evaluation by PMRA is patently negated by Mr. Worgan's key role in that process. These circumstances give rise to the inference that the re-evaluation of lindane, begun in 2005 and ongoing today, had its condemnation as a foregone conclusion.

(PHB Cl., para. 146).

129. The Claimant further argues that the REN was conducted *pro forma* to buttress the Respondent's position in the present arbitration.

130. The Claimant sees these flaws essentially as a breach of due process.

2. Respondent's position

131. The Respondent argues that (i) the PMRA's scientific review of lindane was undertaken on the basis of legitimate considerations, acknowledged by the Claimant's witnesses, squarely within the PMRA's mandate and in accordance with Canada's international undertakings under the Aarhus Protocol to the LRTAP Convention (PHB Resp., para. 24 ff); (ii) the scientific review of lindane falls within acceptable scientific parameters and, given the possibility of reasonable disagreements on the choice of safety factors or on the adequacy of existing data, it is not for the Tribunal to review the scientific basis of the PMRA's decision (PHB Resp., para. 30 ff); (iii) the outcome of the Special Review was not a foregone conclusion (PHB Resp., para. 47 ff); (iv) the Special Review was not fundamentally flawed from a procedural point of view, as the Claimant was given two opportunities at the outset and during the Special Review to ask questions and make comments (including at a high-level meeting between Mr. Ingulli, Chemtura's Executive Vice-President for the Crop Protection Division, and Dr. Franklin, the PMRA's Executive Director), and the announcement of the Special Review mentioned that the review could cover other issues, which included exposure considerations, a standard focus of PMRA evaluation, as acknowledged by the Claimant's witness, Mr. Thomson (PHB Resp., para. 79 ff); (v) the process leading to de-registration, including the Board of Review, provided the Claimant due process (PHB Resp., para. 93 ff).

132. The Respondent further argues that the REN was not biased, nor was it an admission that the Special Review was fundamentally flawed, and, in any event, it cured any alleged deficiencies in the Special Review (PHB Resp., para. 103 ff). The Respondent contends mainly that the evidence gathered at the hearing confirmed that Mr. Worgan had no substantive role in the REN. It refers to the testimony of Dr. Chan pursuant to which Mr. Worgan played a very limited role in the conduct of the risk assessment

within the REN process given his managerial coordination role. The Respondent further refers to Mr. Worgan's own testimony that his role was distinct from the risk assessment carried out by the Health and Environmental Directorates (PHB Resp., para. 103 ff). Moreover, the Respondent stresses that the REN team conducting the scientific review was distinct from the original Special Review team. It notes in particular that scientists like Ms. Chaffey had minimal involvement in the REN and no direct involvement in the work of the evaluators (PHB Resp., para. 107). By reference to the testimony of Mr. Worgan, the Respondent finally puts forward that the primary reason for launching the REN was the series of recommendations made by the Board of Review, and that there is no evidence to suggest that the REN was not a good faith scientific process (PHB Resp., para. 108 ff).

3. The Tribunal's determination

133. In its oral and written submissions, the Claimant's argumentation has focused on two main issues. First, the Claimant has argued that the PMRA launched its Special Review of lindane as a result of a trade irritant and not of health and environmental considerations. Second, the Claimant has also argued that the process through which the PMRA reviewed the risks associated with lindane was flawed, scientifically and procedurally, and reached what was in fact a foregone conclusion. However, the position of the Claimant as to whether lindane itself presents unacceptable health and environmental risks is somewhat ambiguous. Underlying the Claimant's argumentation is the suggestion that lindane could have remained usable, at least on some hypotheses or for a longer time-period than the one eventually decided by the PMRA. Such allegations are made to challenge the manner in which the PMRA conducted the lindane review process rather than the more fundamental question of the risks associated with using lindane.
134. The Tribunal notes at the outset that it is not its task to determine whether certain uses of lindane are dangerous, whether in general or in the Canadian context, as the Claimant acknowledged at the hearing for closing arguments: "As Canada has noted, the rule of a Chapter 11 Tribunal is not to second-guess the correctness of the science-based decision-making of highly specialized national regulatory agencies. We agree with this proposition" (Tr., 17 December 2009, 1423: 18-21).
135. Irrespective of the state of the science, however, the Tribunal cannot ignore the fact that lindane has raised increasingly serious concerns both in other countries and at the

international level since the 1970s. The Respondent has amply established the existence of such concerns, by referring *inter alia* to the following examples (C.-Mem., para. 34):

- (i) In 1968, Hungary restricted the use of lindane to grain treatment for winter wheat and nurseries;
- (ii) In 1971, lindane was banned in Japan;
- (iii) In 1974, mixed isomer-based lindane products were banned in Portugal;
- (iv) In 1979, the Netherlands prohibited the sale, stocking or use of pesticides containing HCH in all of its isometric forms;
- (v) In 1986, South Korea banned the sale and use of lindane and Switzerland severely restricted its sale and use;
- (vi) In 1987, Cyprus restricted the use of lindane to wood protection and paints, eliminating agricultural use;
- (vii) In 1988, Finland prohibited the use of lindane as a pesticide;
- (viii) In both 1978 and 1988, the use of lindane was severely restricted within the European Community;
- (ix) In 1988, lindane was banned in Germany;
- (x) In 1988, the former USSR prohibited the use of lindane as a pesticide, and severely restricted all other uses;
- (xi) In 1989, lindane was banned in Sweden, and in Belgium its use was restricted to wood treatment and veterinary applications;
- (xii) In 1990, lindane was banned in New Zealand and deregistered in Mongolia;
- (xiii) In 1991, lindane was banned in Bangladesh and Hong Kong, and its use was severely restricted in Belize and China;
- (xiv) In 1992, lindane was banned in Austria and Brazil;
- (xv) In 1993, lindane was banned in Bulgaria;
- (xvi) In 1994, lindane was banned in Norway;
- (xvii) In 1995, lindane was banned in Denmark and its use was severely restricted in Argentina;
- (xviii) In 1997, the U.K. Pesticides Safety Directorate (PSD), the U.K. equivalent of the PMRA, initiated a review of lindane. By 1999, the PSD had decided to ban all forms of lindane seed treatment use, on the basis of unacceptable health risks to workers exposed to the chemical during seed treatment;
- (xix) In 1998 the Aarhus Protocol on Persistent Organic Pollutants to the UNECE Convention on Long-Range Transboundary Air Pollution of 1979 was adopted by some 30 countries, including the United States, Canada, and most countries of Western and Eastern Europe (this Protocol restricted the use of lindane to six specific uses and required a reassessment of lindane);
- (xx) In 1998, lindane was banned in France;
- (xxi) In 1998, the EU initiated a complete re-evaluation of lindane which resulted in an eventual Europe-wide ban on plant protection products containing lindane in 2000;

(xxii) At the same time, a number of European countries added lindane to the List of Chemicals for Priority Action under the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic, further signalling international concern about the human health and environmental effects of lindane.

136. Moreover, in May 2009, lindane was included in the list of chemicals designated for elimination under the Stockholm Convention on Persistent Organic Pollutants or POPs (Exh. CC-45).

137. This broader factual context is relevant in assessing the first point raised by the Claimant, namely whether the PMRA undertook the Special Review as a result of a trade irritant and not as a part of its mandate as a regulatory agency or as part of an international commitment undertaken by Canada under the Aarhus Protocol to the LRTAP Convention.¹¹ Although the Claimant has avoided formulating this allegation in such terms, the underlying idea is that the PMRA acted in bad faith and launched a review process for reasons unrelated to its mandate and to the international obligations of Canada. The burden of proving these facts rests on the Claimant, in accordance with well established principles on the allocation of the burden of proof,¹² and the standard of proof for allegations of bad faith or disingenuous behaviour is a demanding one.¹³

138. In the Tribunal's view, the evidence on the record does not show bad faith or disingenuous conduct on the part of Canada. Quite the contrary, it shows that the Special Review was undertaken by the PMRA in pursuance of its mandate and as a result of Canada's international obligations.

139. Annex II of the Aarhus Protocol expressly provides that "[a]ll restricted uses of lindane shall be reassessed under the Protocol no later than two years after the date of entry in force" (Exh. JW-10). At the hearing on the merits, Dr. Franklin, at the time the Director of PMRA, noted that the conduct of the Special Review was prompted by commitments undertaken by Canada during the negotiation of the Aarhus Protocol:

Canada was not in a position to sign--other countries had already banned lindane, so that they had no problem with signing a Protocol that, in essence, was leading to an overall ban. For them the situation was very clear: It didn't make a difference. It was gone in their country, so they could sign that because, in effect, they had already done that. We had registered products in Canada, and we had not

¹¹ Protocol to the Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants (Aarhus Protocol) (Exhibit JW-10).

¹² See Article 21, UNCITRAL Arbitration Rules.

¹³ See *Bayindir Insaat Turizm Ticaret VE Sanayi A.S. v. Islamic Republic of Pakistan*, ICSID Case No ARB/03/29, Award of 27 August 2009, para. 143.

done a review, so that there was no way that we were in a position to support a Protocol that, in effect, was going to ban them [...]

Everybody was pressuring. I mean, my goodness, countries that had already banned lindane very much wanted other countries that were still using it to stop because, of course, their use could contribute to long-range transboundary, which could then, even though a country had banned it, they could still end up being exposed to it. So, the whole purpose of these international POPs Conventions was to find a way to deal with it. Our position was that that could well be the case. But I think it really points out or should point out to everybody that we were not going to take action to ban. This wasn't a preconceived idea that Canada had that they were going to ban this, regardless. We clearly stated that we had to do a review to make a decision as to whether a ban was acceptable or not, so that there was not--there was not a--we hadn't taken a decision ahead of time as to what the outcome would be--that was based on the scientific review--despite the pressure from many other countries." (Tr., 7 September 2009, 1072-1074).

140. The oral testimony of Dr. Franklin is corroborated by the testimony of three other witnesses. Examined on the reasons for the launch of the Special Review, Ms. Chaffey, Head of the Toxicology Re-Evaluation Section of the PMRA's Health Evaluation Directory, stated that the PMRA

launched the Special Review in response to both domestic concerns such as those that were articulated in the Northern Contaminants Program Report on contaminants in the Arctic environment as well as international concerns that were specifically addressed through the United Nations LRTAP program (Tr., 3 September 2009, 457:9-14).

141. Similarly, asked in cross-examination about the uses of lindane that Canada retained under the Aarhus Protocol, Mr. Worgan, at the time PMRA's Head of Exposure Assessment, declared that

Canada agreed to put those into that list of restricted uses because those were currently registered—at that time they were registered in Canada, and we would not have been able to agree to a ban until such time that we had done like a full re-assessment of that, and that's exactly what we committed to do at the Aarhus Protocol meeting (Tr., 4 September 2009, 564: 23-25, 565: 1-3).

142. In the same vein, Ms. Sexsmith, at the time the Director of the Alternative Strategies and Regulatory Affairs Division of the PMRA, made the following statements:

Q. Would it be fair to say that that wanting by the Canola Council of a VWA was very consonant with the desire of the PMRA to phase out all uses of lindane?

A. No. I would say at that point in time they were mutually exclusive. Lindane was an older product. And according to the new re-evaluation policy that was being developed, it would naturally fall into the queue for review. And then with the international activity around concerns for lindane, Canada would be required to do a review, but requiring--being required to do a scientific review is quite different than getting rid of a product because the scientific review has to come first. So--and the upshot or the result

of a scientific review, it could be positive or negative. So, you know, if you're saying that because the Canola Council wanted to get rid of it that lined up with PMRA's view of wanting to get rid of it, I have to say categorically, no, because we don't have personal views of products. We're a regulatory organization. We regulate. We ensure health and environmental safety. And it's the science that tells us whether or not it meets those provisions. So, for us to make a conclusion before we've done the work is not something that we do as an organization, so I would just have to say no to your statement (Tr., 5 September 2009, 817:10-25, 818:1-8).

143. On the basis of this evidence, the Tribunal concludes that the Claimant's allegations of bad faith in connection with the launching of the Special Review of lindane have not been established.
144. Regarding the second broad allegation of the Claimant, namely that the lindane review process and more specifically the Special Review and the REN were flawed, the Tribunal notes as a preliminary matter that the Claimant approaches the review of lindane not as an overall process (starting with the Special Review, continuing with the assessment of the Board of Review, and ending with the REN), but rather as separate measures, two of which (the Special Review and the REN) are said to be in breach of Article 1103 of NAFTA. Aside from the fact that the conclusions of the Board of Review are relatively more favourable to the Claimant than those of the Special Review and the REN, the rationale for separating the three phases of one and the same process is not entirely clear. Without framing its allegations expressly in such terms, the Claimant has suggested that both the Special Review and the REN were flawed because they were conducted in bad faith in order to reach the foregone conclusion that lindane was to be banned. The key argument in challenging the legitimacy of the REN is that its results were allegedly influenced by Mr. Worgan, who had previously taken an important part in the Special Review, as well as by the litigation needs of the Respondent in the present case. Such allegation might provide a possible rationale for distinguishing between, on the one hand, the Special Review and the REN, both conducted in bad faith by the PMRA, and, on the other hand, the assessment of the Board of Review. However, such distinction would be dependent on the underlying contention that the PMRA acted in bad faith since the beginning of the overall review process.
145. Thus, in assessing the measures identified by the Claimant as allegedly in breach of Article 1105 of NAFTA, the Tribunal must first determine whether the Special Review was conducted in such a manner as to reflect bad faith on the part of the PMRA. If this is not the case, the allegation of bad faith in the conduct of the REN would also have to be discarded. To this first inquiry, the Tribunal must however add a second one,

namely whether the review of lindane (even if in good faith), breached the due process rights of the Claimant. Such inquiry must take into account the review process as a whole, including the procedure before the Board of Review, as an additional opportunity offered to the Claimant to put forward its position. Indeed, the mechanisms for the review of regulated products, such as lindane-based products, as well as those applicable to the consequences of such review, are set out in a complex array of laws and regulations, the purpose of which is precisely that any decisions taken by the authorities in this context are subject to procedural checks and balances. The establishment of the Board of Review was an important component of such arrangements, as was the REN. In assessing whether the alleged procedural deficiencies attributable to the Respondent involved a breach of Article 1105 of NAFTA, the Tribunal should not limit its inquiry to a specific portion of such arrangements. It must appraise any procedural deficiency in the light of the mechanisms provided by the Respondent itself to manage such potential occurrences. In the following paragraphs, the Tribunal will assess the main factual contentions of the Claimant from the perspective of these two distinct inquiries.

146. The Claimant seeks to ground its allegations of bad faith or at least procedural impropriety in the manner in which the Special Review was conducted by reference to five main factual contentions.
147. First, according to the Claimant, the notice of 15 March 1999 announcing the Special Review was unspecific and provided insufficient information with respect to both the concerns underlying the process and the manner in which registrants could participate (PHB Cl., para. 99). Having regard to the circumstances in which the Special Review was launched, as discussed in paragraphs 138-143 above, the Tribunal is not persuaded by the conclusions that the Claimant seeks to derive from the contents of the notice of 15 March 1999. As already noted, the balance of the evidence clearly suggests that the Special Review was launched out of legitimate regulatory concerns and in accordance with Canada's international commitments. Even assuming *ratio arguendi* that the content of such notice were insufficient to inform the Claimant of the concerns underlying the process and the manner in which registrants were able to participate, such fact alone would not be sufficient to justify a finding of a failure of due process sufficient to constitute a breach of Article 1105 of the NAFTA. Rather, the content of such notice must be assessed together with the other steps taken by the PMRA to convey the rationale and focus of Special Review and in light of the specific circumstances, as we shall see next.

148. Second, the Claimant also contends that the PMRA disingenuously failed to clarify the impact of the occupational risk assessment for the outcome of the Special Review (PHB Cl., para. 102 ff), that it did not request relevant data from registrants, thus depriving the Claimant of the opportunity to comment on the use and exposure practices and/or to present an updated occupational risk study (PHB Cl., para. 110 ff). It further submits that the registrants were offered very little time to comment on the Occupational Exposure Assessment once issued. It is true that the findings of the Board of Review lend some support to these contentions. This observation is, however, not dispositive of the inquiry of this Tribunal, which implies determining whether the facts reflect bad faith or at least procedurally improper behaviour by the PMRA which was both serious in itself and material to the outcome of its inquiry. Having regard to all the circumstances of the case, the Tribunal considers that this aspect of the Special Review was not conducted in a manner that reached such a threshold.

149. Indeed, as a sophisticated registrant experienced in a highly-regulated industry, the Claimant could not reasonably ignore the PMRA's practices and the importance of the evaluation of exposure risks within such practices. Both Mr. Ingulli, at the time the Claimant's Executive Vice-President for the Crop Protection Division, and Mr. Thomson, at the time the formulations manager of Chemtura Canada, acknowledged at the hearing that they were aware of the PMRA's practices and of the role played by exposure risks in such practices. In cross-examination, Mr. Ingulli answered as follows:

Q. All right. I will come back to some of the issues you've raised, but I would like to discuss the Special Review process for a moment. Now, Chemtura, you would agree, is a sophisticated registrant?

A. Yes.

Q. As a sophisticated registrant, Chemtura would be expected to know and understand PMRA practices?

A. Yes, I would say that's correct.

Q. And Chemtura is generally familiar with PMRA re-evaluation policy?

A. Yes (Tr., 2 September 2009, 197:17-25, 198:1-3).

Similarly, Mr. Thomson gave the following answers:

Q. Okay. When you affirmed your first Witness Statement, were you aware of the PMRA's practice that it was standard practice for conducting pesticides re-evaluations that they simultaneously examined three things, three broad categories: Toxicity, exposure, and environmental impact? So, were you aware of that at the time you affirmed your Witness Statement?

A. Yes.

Q. So, would you agree that the evaluation of the exposure to the pesticide is a standard practice of re-evaluation?

A. Yes (Tr., 3 September 2009, 281:8-18).

150. Moreover, the record shows that at least on two occasions the Claimant was made aware of the importance of exposure risk and was asked to provide information on this matter, but failed to take advantage of these opportunities. In a meeting held on 10-11 May 1999 (Exh. CC-23), shortly after the announcement of the Special Review, representatives of the Claimant were made aware that health issues would be addressed in the Special Review. Mr. Ingulli recognized, at the hearing on the merits, that health issues were understood to include exposure risks during seed treatment (Tr., 2 September 2009, 206:3-19). The minutes of this meeting prepared by one of the Claimant's representatives, Mr. Johnson, mention the PMRA's interest in obtaining an exposure study elaborated for the United Kingdom regulatory agency, of which the Claimant was well aware (Exh. JW-19). Then, in a meeting held on 4 October 2000 with Mr. Ingulli, the Claimant's top representative for this matter, Dr. Franklin, the PMRA's Executive Director, specifically mentioned that worker exposure was a concern in the lindane Special Review:

Q. Now, Mr. Ingulli suggested in his testimony before the Board of Review that worker exposure was only raised in passing at this October 4th, 2000 meeting, and that you didn't signal that the PMRA had any particular concern about this issue in connection with the ongoing Special Review. Do you agree?

A. Well, my recollection of the meeting is that it was more than a just in passing discussion. The issue, of course, is when I would be at meetings like that, the intent would not be a technical discussion of the science specifically involved, so that I think it's fair to say that most companies would understand if I had raised it that it had worked its way up and that I was familiar with that (Tr., 7 September 2009, 1041:24-25, 1042: 1-10).

In fact, only two days after that meeting, an employee of the Claimant, Mr. Dupree, sent to PMRA a copy of a 1992 study on workers' exposure to lindane (Exh. CF-10). At the October meeting, the representatives of the Claimant referred the PMRA staff to the 1992 Dupree study. Moreover, Mr. Ingulli's own notes of the meeting specifically mention "Concerns of PMRA: Worker Exposure. Told PMRA that EPA reviewed and accepted seed treat[ment] worker exposure study" (Exh. CF-12).

151. In the light of these facts, the Claimant's allegation, by reference to the conclusions of the Board of Review, that the comment period given to the Claimant after the release of the draft Special Review results was too short, is not persuasive either. Despite the suggestion by Mr. Ingulli at the hearing that the Dupree study reflected outdated data,

the Claimant did not point that out to the PMRA during the comment period. Rather, it relied, once again, on the Dupree study, although applying a lower safety standard (First Affidavit of Cheryl Chaffey, para. 101-102; First Affidavit of Wendy Sexsmith, para. 99-102).

152. On the basis of the evidence just discussed, the Tribunal cannot conclude that the second factual contention advanced by the Claimant amounted to unfair, let alone bad faith behaviour on the part of the PMRA.
153. Third, the Claimant further argues that the scientific basis for the outcome of the Special Review was insufficient, a fact that suggests that the underlying reasons explaining the outcome are to be found in the political pressures exerted on the PMRA (PHB Cl., para. 106 ff). The Tribunal has already discussed the reasons why the PMRA launched the Special Review, rejecting the arguments of the Claimant in that regard. It adds, in this connection that the Claimant itself acknowledges that it is not for the Tribunal to judge the correctness or adequacy of the scientific results of the Special Review, not even those questioned by the Board of Review. Thus, such divergence cannot, under the present circumstances, constitute a basis for a finding of unfair or bad faith treatment.
154. The Tribunal is further comforted in this conclusion by the fact that in both his written and oral testimony, the expert witness presented by the Respondent, Dr. Costa, confirmed that the PMRA conclusions were within acceptable scientific parameters:

Q. Yeah, okay. So, and I'll just read it in. This is the Lindane Board of Review at Paragraph 222: "The Board is of the view that the additional 10X uncertainty factor is not justified. Where a scientist makes a finding or a determination that is not justified, would you say that that is within generally acceptable scientific parameters?"

A. I think so. The application of these additional uncertainty factors, it's left to the scientists who conduct the Risk Assessment, and it's often very possible that different scientists, as I mentioned earlier, by looking at the same data, may reach different conclusions. It's also--you could find also differences in the amount of this uncertainty factor. It could be, as I said, anything from 2 to 10. So, there are differences. The way I read the Paragraph 222 is that not that the Board recommended that the additional uncertainty factor be totally removed. It says that, "it therefore recommends that PMRA consider an adjustment factor added in additional 10-fold maximum default." In other words, my interpretation of this recommendation on part of the Board of Review is that, "PMRA, you have decided to apply a 10-fold safety factor," which is the maximum basically. "Why don't you go back and look at the data again and see whether you can go by and consider and use a different safety factor?" The Board didn't say, "You should use 2 or 3 or 5 or 7." It simply recommended PMRA to take another look at the data and see whether they could apply a lower uncertainty factor [...]

And these differences of opinion are within the boundaries of acceptable sciences. Obviously, if you apply a higher safety factor, you are leaning toward a more conservative position, and this is what PMRA seemed to have done. They have chosen a more conservative safety factor. And although you could say, you know, "You have been too conservative, you could have chosen a lower one," you also have to think that PMRA is the Canadian Agency which is responsible for the safe use of pesticide in the State of Canada, and so it's the responsibility to assure that the use of any pesticide would be within the realm of safety. That's their duty and their mission. And from this point of view, it's not surprising they may be leaning toward a slightly more conservative position (Tr., 7 September 2009, 1115:13-25, 1116:1-17, 1117:5-18; see also First Expert Report of Dr. Costa, para. 4, 113, 116, 158; Second Expert Report of Dr. Costa, para. 24, 36).

In his oral testimony, Dr. Costa further added the following statements in connection with the PMRA's choice of a safety factor:

One other thing that--it's also written in the paragraph you pointed out to--is that even if PMRA had chosen a safety factor of 300 instead of 1000, thereby somehow appearing to be a little bit less conservative or assuming that this additional 3-fold safety factor instead of 10 would have covered all the toxicological concerns, several of the values of the margin of exposure, about 50 percent of those under different scenarios would have still been below the target of 300. And on this basis alone, PMRA could have reasonably concluded that it was an acceptable risk for workers the continuous use of lindane. So, in the end, this is what I want to say: They chose 1000, but even if they had chosen 300, the bottom line would have been the same (Tr., 7 September 2009, 1124:23-25, 1125:1-11).

This provides additional confirmation that the scientific divergence to which the Claimant referred cannot in and of itself serve as a basis for a finding of breach of Article 1105 of NAFTA.

155. Fourth, the Claimant has also argued that the PMRA failed to timely complete the Special Review, preventing the Claimant from taking appropriate action in the United States to register or to obtain a tolerance for the use of lindane on canola. According to the Claimant, the "PMRA only released its Occupational Exposure Assessment, which was ostensibly the culmination of its Special Review, in October 2001. If PMRA had completed a proper scientific review on lindane by the end of 2000, as it had committed to do, Chemtura would have actively pursued its U.S. application for registration and/or tolerance of lindane for use on canola" (PHB Cl., para. 101). The Tribunal understands this factual contention as a composite one, involving the following four statements: (i) that the Claimant was entitled to obtain the result of the Special Review by the end of 2000, (ii) that it did not actively seek a registration or a tolerance from the EPA, (iii) that such abstention was caused by the delay of the Special Review, and (iv) that the Claimant would otherwise have obtained a registration or a tolerance from the EPA. At the outset, the Tribunal notes that these components must all be established for the

Claimant's contention to be well-founded. Without some entitlement, there would be no reason to attribute to the PMRA's delay in issuing the Special Review any consequence suffered by the Claimant. Similarly, if despite the existence of such an entitlement, the Claimant is found to have sought a registration or a tolerance from the EPA, whatever the results of its endeavour, no consequences may be attributed to the PMRA. It is further clear that the burden of proving each of these factual components rests with the Claimant.

156. The Claimant has not shown that it was entitled to obtain the results of the Special Review by the end of 2000. Even if *ratio arguendi* the Tribunal were to accept the existence of such an entitlement, there is ample evidence in the record that the Claimant actively sought a registration or a tolerance from the EPA, although unsuccessfully. At the hearing on the merits, Dr. Goldmann, a former senior EPA officer, made the following statement:

[...] I do know that it appears to me that they were aggressively attempting to maintain their registrations and to secure a registration for canola all the way through the beginning of 2006 when I would look at the record – I mean, 2006. And when I look at the record—and I see that they were continuing to perform studies, continuing to submit studies, continue to pay consultants to do work for them on this, continuing to meet with the EPA (Tr., 7 September 2009, 1232:21-25, 1233:1-3).

This point was confirmed by a witness produced by the Claimant. Examined about the Claimant's attempts to obtain a tolerance from the EPA for lindane use on canola, Mr. Johnson, formerly a consultant advising the Claimant, gave the following answers:

Q. Okay. Let's take a look in Tab 259. It's an E-mail that we already looked at. This is in 2003. Tab 259 is in Volume 7--no, Volume 9. I apologize. So, point three, you have, "There has been some discussion on the general issue of how to handle FDA approved product exposure in a cumulative risk assessment at top OPP management levels and OGC, but not much progress has been made." OGC is the Office of General Counsel—

A. Yes.

Q. --of the EPA? Okay. And then the next page, in the middle of it you ask at point one, "Should we try to press upper OPP management for closure on the RED comments, including the generic FDA issue?" And Mr. Cummings replies, "I would push the FDA issue. The FDA issue is not resolved in our favor, there will not be any future lindane tolerances because the risk cup is full." Did you continue to push the EPA, Mr. Johnson?

A. Yes, we did. We sent in several written comments, and we sent in some analyses by our toxicologists as to how to apply a probabilistic assessment to show that there is a problem that EPA is basically using the wrong analysis, and we continued to talk with people over there on the phone about getting this resolved.

Q. Okay. So, you put in a good deal of effort to try and convince the EPA--

A. Yes.

Q. —because Chemtura believed this was an important part of getting a canola tolerance in the United States?

A. Yes, that's correct (Tr., 3 September 2009, 431:16-25, 432:1-20).

157. If, in spite of this evidence, the Tribunal were to accept that the Claimant did not seek a tolerance or a registration with the EPA or did not do so actively enough, the Claimant would still have to establish that the decisive reason for this omission was the delay in the Special Review, which it has not done.
158. Finally, the assertion of the Claimant according to which it would have obtained a tolerance or a registration from the EPA is highly speculative. For these reasons, the fourth factual contention advanced by the Claimant cannot ground a finding of unfair, let alone bad faith treatment from the PMRA.
159. Fifth, according to the Claimant, after the Special Review, the PMRA refused to establish a Board of Review as required by Sections 23 and 24 of the Pest Control Product Regulations (Mem., para. 432 ff). The consequences that the Claimant attempts to derive from this factual contention are unclear. It is a fact that the Board of Review was established and the Claimant does not question the manner in which the Board proceeded or the results it reached. Irrespective of whether the PMRA refused to establish a Board of Review or not, an issue which is disputed by the Parties, what matters from the perspective of Article 1105 of NAFTA is that the Board was indeed established by Canada, and that such step provided the Claimant with an additional measure of due process.
160. In any event, there is no evidence on record suggesting that the PMRA thwarted or improperly influenced the process of setting up the Board of Review. In response to the Claimant's letters of 18 February and 14 March 2002, requesting the establishment of the Board of Review (Exh. WS-64, WS-65), the Minister advised the Claimant on 6 May 2002 that "Crompton Co/Cie's requests have been referred to the Pest Management Regulatory Agency for appropriate action" (Exh. WS-68). One month later, on 3 June 2002 the Claimant requested clarification of the role of the PMRA in the establishment of the Board of Review:

We are unclear as to the meaning or intent of your letter. It would appear that either you intend the PMRA to appoint the Board for the purpose of conducting the reviews contemplated by the Regulations

or that you intend the PMRA itself to conduct the review. Either interpretation offends principles of fairness and reasonable administrative decision-making (Exh. WS-69).

Only 9 days after such letter, without awaiting the reply from the Minister, the Claimant made an application before the Federal Court of Canada opposing the Minister's decision to refer the requests to the PMRA (Exh. R-84). The process of appointment of the Board of Review was then suspended pending the decision of the court. On 6 May 2003, a hearing was held by the Court in Vancouver, during which

Counsel for the Applicant said in open court in the course of his submissions in support of the orders sought that: (a) there was no suggestion on the part of the Applicant that the Minister could not consult the PMRA. (b) the Applicant was not asking the Court to tell the Minister how to conduct the appointment process. (c) the role of the PMRA in the process of appointing a Review Board under s. 24 of the Regulations was not an issue.

9. With these concessions by counsel for the Applicant, the way was cleared for the Minister to utilize the PMRA in the process of setting up a Review Board in the exercise of her powers under s. 24, which she started to do in May 2002 but stopped pending assurances that she was acting within the law.

10. By an Order dated 6 May 2003, Justice Gibson ordered that the hearing of the application be adjourned sine die, but that he remain seized of the matter, and that by agreement among the Court and counsel, counsel will report in writing to the judge through the Registry in Ottawa by close of business on Friday 16 May 2002 [sic] on any progress toward settlement of the issues here (Exh. WS-67).

161. Thereafter, the Minister moved forward with the constitution of the Board of Review, and on 22 October 2003, the Minister advised the Claimant that the Board had been established (Exh. B-76). On 8 January 2004, the Claimant requested the discontinuance of the matter raised in its application of 12 June 2002 (Annex R-104A). This sequence of events shows that the delay in the establishment of the Board of Review was primarily the result of the Claimant's application to the courts filed before receiving any reply from the Minister regarding the role of the PMRA. It also shows that the Claimant had no issue with the role of the PMRA in the appointment process. This evidence confirms the conclusion of the Tribunal that the fifth factual contention advanced by the Claimant cannot justify a finding of unfair, or bad faith behaviour by the PMRA.
162. On the basis of the foregoing considerations, the Tribunal cannot accept the Claimant's argument that the Special Review conducted by the PMRA gave rise to a breach of Article 1105. Specifically, the evidence adduced by the Claimant does not establish that the PMRA acted in bad faith or in breach of due process standards. As a result, the Tribunal sees no need to discuss the alleged interference of PMRA staff in the REN

process. Even if such interference in the scientific results of the REN were to be established, which is not the case, this would by no means indicate that the REN was biased. Moreover, the Claimant has referred to one internal document dated 31 August 2006 (Exh. JW-61) in which Mr. Worgan states that the PMRA has consulted with the Trade Law Bureau and that the latter recommended "to complete the review of lindane". This "would clarify/substantiate the position taken by the PMRA in 2001 and support the government's position in court". This mention is insufficient to prove that the REN was a *pro forma* exercise. First, the REN was launched several months before the date of the internal document just referred to as a result of the recommendations made by the Board of Review and it concerned several registrants (Exh. JW-37, JW-43, JW-47, JW-48, JW-49, JW-50, JW-51, JW-52). This is in particular evident from the first page of the internal document, which states that

[i]n response to the recommendations of the Lindane Review Board, the PMRA has initiated a follow-up review of lindane. This includes revisiting the occupational risk assessment as well as finishing environmental, cancer and dietary assessments that were not completed at the time of the original decision. The former lindane registrants affected by the 2001 decision were asked to provide data and information required to refine the assessment with a deadline for submission end of July (Exh. JW-61).

Second, the first page of this document also mentions that "[t]he ongoing review of lindane [was] resource-intensive for some science divisions, and increases timelines on re-evaluation of other active ingredients" (Exh. JW-61). This was further confirmed by Mr. Worgan at the hearing on the merits, when he stated the following:

We took this very seriously, and, you know, we have a scientific process that has a lot of integrity. We – in this particular case, we assigned a different group of evaluators than those that had worked on the lindane Assessment. We provided them with absolutely no direction with respect to what the outcome should be, what we were expecting. We had no vested interests, for example, in a particular outcome. The science will lead you where the science goes. It was not a foregone conclusion. We had some additional information on the worker exposure side. We had some additional toxicology that our scientists looked at. We also had – we undertook a review of some of the other areas that we had not completed previously. We took all of those into account in the decision. That is definitely not a foregone conclusion (Tr., 4 September 2009, 650:24-25, 651:1-13).

There is no doubt in the Tribunal's mind that the REN was not a biased exercise conducted for litigation purposes.

163. On the basis of the foregoing considerations, the Tribunal concludes that the first and the sixth specific measures identified by the Claimant in its Post-Hearing Brief were not in breach of Article 1105 of NAFTA.

c. Prohibition on planting treated seed after 1 July 2001

1. Claimant's position

164. The Claimant argues, generally, that the PMRA breached the Claimant's legitimate expectations with regard to the PMRA's commitments under the Withdrawal Agreement and the Canadian regulatory regime for seed treatment products. According to the Claimant, the key components of the Withdrawal Agreement were breached (Mem., para. 384 ff). In particular, the Claimant understood the Withdrawal Agreement as entailing that its lindane products could be used to treat canola seed until 1 July 2001, with no stated restrictions on when that treated seed could be sold or planted.
165. In its Post-Hearing Brief, the Claimant identified, as the second specific measure in breach of Article 1105(1) of NAFTA, the prohibition on the planting of treated seed after 1 July 2001, sanctioned by substantial fines. According to the Claimant, lindane product sales were coming up for the 2001 year and it was unlikely that treaters would treat or growers would plant seeds treated with lindane to the extent they could incur a heavy fine. The Claimant concludes that the PMRA's conduct in this regard was blatantly unfair, and its impact on the sales of lindane products was substantial and immediate.
166. Moreover, the decision to require the cessation of all sales and use of the Claimant's lindane products on canola/rapeseed on 1 July 2001 was contrary to previous discussions with and representations by the PMRA to registrants. It was also marked by an absence of transparency in breach of the Respondent's obligation to maintain a transparent regulatory environment (Mem., para. 432 ff).

2. Respondent's position

167. As a general matter, the Respondent replies that (i) the hearing confirmed that the Withdrawal Agreement was an industry-led agreement, driven by the industry's business concerns, and that the PMRA only intervened as a facilitator, subject to the condition that the agreement was voluntary and treated all registrants equally (PHB Resp., para. 119); (ii) the Claimant freely consented to the Withdrawal Agreement and took the benefit of it (PHB Resp., para. 119); (iii) the expectations or terms that the Claimant seeks to derive from such agreement were misstated or unreasonable and are not protected by Article 1105 of NAFTA (PHB Resp., para. 148 ff); (iv) in any event,

to the extent that the PMRA agreed to do anything in connection with the Withdrawal Agreement, it substantially lived up to expectations (PHB Resp., para. 168).

168. More specifically, the Respondent contends that the 1 July 2001 deadline was set for lindane canola products to be used up. According to the Respondent, this meaning is clear from the letters invoked by the Claimant, the rationale of the Withdrawal Agreement and the contemporary internal documentation of the Claimant. The terminated use encompassed not only the use of lindane products to treat canola seed but also any other uses, including the planting of previously treated seed. In this regard, the Respondent refers *inter alia* to canola industry requests that the PMRA allow leftover treated seed to be used in the 2002 planting season. Moreover, the cut-off date for use of lindane on canola being set, the PMRA would have been entirely justified in reminding growers of such date. Finally, as growers had no right to plant lindane-treated canola after 1 July 2001, the Claimant can not reasonably complain that it lost sales for a period when its product was no longer authorized. In any event, the evidence at the hearing confirmed that the PMRA made no threats, contrary to what the Claimant has argued (PHB Resp., para. 169 ff).

3. The Tribunal's determination

169. Contrary to the Claimant's allegations that the PMRA "fostered and exploited industry fears to pressure producers to voluntarily withdraw their products, as the only alternative" on the basis of a foregone conclusion on lindane (Cl. PHB, para. 60), the evidence in the record clearly suggests that the Withdrawal Agreement was an industry-led initiative involving the PMRA as a necessary partner. In addition to the written record (e.g. Exh. TZ-25) the Tribunal found the oral testimony of Mr. Tony Zatylny, at the time Vice-President of Crop Production and Regulatory Affairs at the Canola Council of Canada (CCC), particularly persuasive. Asked by one member of the Tribunal whether the initiative of the Withdrawal Agreement came from the PMRA, Mr Zatylny responded "It did not" (Tr., 4 September 2009, 725:7). Asked then whether the Claimant had been compelled by the PMRA to enter into the Withdrawal Agreement, Mr Zatylny replied as follows:

I would not say that's the case. This was the initiative of the growers. They were consistent in their response all through this process, that they no longer wanted to use a product. They did not want the health issues raised by nongovernment groups and consumer groups. They did not want issues at the border. It was their solution, and the PMRA was involved to facilitate the Agreement. It was--it was really the growers' solution. We analyzed the problem. Let's face it, all the lindane used in Canada

would amount to \$20 million at the most. The industry was worth \$1.8 billion, 600 million of which was exports to the U.S. When we balance from the growers, when the industry balanced the use of lindane against the health of the industry, there is really no choice, and the solution was--was hammered out and agreed to by the industry, by the participants, and presented to the PMRA looking for their support (Tr., 4 September 2009, 725:10-25).

170. This statement was corroborated by Mrs. Sexsmith, at the time Director of the Alternative Strategies and Regulatory Affairs Division of the PMRA, who rectified as follows:

[...] I think the other issue is the point that PMRA has not made unanimous agreement among all Registrants. I mean, that wouldn't be a function, our function. I mean, obviously, the Agreement needed to be there in order for the voluntarily agreement to work, but that really wasn't up to us to do. That was up to the Canola Council (Tr., 5 September 2009, 786:2-7).

171. This conclusion provides the overall background for assessing the contents of the Withdrawal Agreement and, in turn, also the meaning of the date of 1 July 2001 which the agreement sets.

172. According to a letter sent by the then President of the CCGA to the PMRA's Executive Director on 26 November 1998,

Registrants of seed treatments containing lindane and other meeting participants agreed to the following:

1. The registrants Interprovincial Cooperative Ltd., Rhone-Poulenc Seed Treatments, Uniroyal Chemical Ltd. and Zeneca Agro will voluntarily remove canola/rapeseed claims from labels of registered canola seed treatments containing lindane by December 31, 1999.
2. All commercial stocks of products containing lindane for use on canola and lindane treated canola seed can not be used after July 1, 2001.
3. The Pest Management Regulatory Agency (PMRA) and the U.S. Environmental Protection Agency (EPA) will continue to work with registrants to facilitate access to lindane replacement products. The Canadian Canola Growers Association (CCGA) and the Canola Council of Canada (CCC) agree to work with the aforementioned bodies to facilitate these activities (Exh. B-12).

173. At the hearing, Mr. Zatylny confirmed that the results of the meeting of 24 November 1998 were, at the time, perceived as a deal with the industry:

PRESIDENT KAUFMANN-KOHLER: At the November 24th, '98, meeting, did you have the impression that there was an agreement reached?

THE WITNESS: Yes.

PRESIDENT KAUFMANN-KOHLER: On what?

THE WITNESS: Well, on the basis of we were committed to not leave the room until we had an agreement or sign off on an agreement being reached. I think it was around 3:00. We had a big board of issues that we were working through and dates and finally there was no more questions, so I asked the Registrants to confirm yes or no: Are they going to support the Voluntary Withdrawal Agreement? Every Registrant said yes, they're going to support the voluntary withdrawal agreement. So, we kind of leaned back and said, "We have a deal". The memory is burned in my mind because that was the critical point. We went through all the issues. We put an action plan together. We finally asked for the support, and we got the support. And starting the day after, the 26th, we started to get feedback on the Press Release. We started working with Registrants. I phoned Julie Langer from the World Wildlife Fund and said, "Lindane is going to be out of the canola business, and so leave us alone." So, lots of things happened after that. So, yes, in my mind, and I believe everyone's mind that sat in the room that day, there was an agreement reached for voluntary withdrawal of lindane seed treatments.

PRESIDENT KAUFMANN-KOHLER: And the agreement included the different conditions?

THE WITNESS: That included the three main points. Those are the ones you're referring to that every company would submit in writing to the PMRA that there would--they wanted canola taken off their labels, that we would work together on registration of new pesticides for canola and that there would be a phase-out period going to July 31 of 2001. And that was the three elements of--

PRESIDENT KAUFMANN-KOHLER: July 1st.

THE WITNESS: July 1st, sorry. Thank you (Tr., 4 September 2009, 729:20-25, 730:1-24).

174. This perception is further confirmed by the description of the contents of the said meeting in the letter which the CCGA sent on 26 November 1998 to the PMRA. Indeed, as part of the agreed work plan, the latter stated that by 30 November 1998, registrants would "agree in writing to the voluntary removal of canola/rapeseed claims from any seed treatments containing lindane by December 31, 1998". Moreover, "[n]o later than December 15, 1998 -- a press release [was to be] issued by the CCGA announcing the voluntary removal of the canola/rapeseed claim from seed treatments containing lindane. Participants in the November 24, 1998 meeting [were to] review the press release before general distribution" (Exh. B-12). Furthermore, the CCGA "respectfully request(ed) your [the PMRA's] acceptance and support for the proposals outlined in this letter" and added that "[a] written response to the CCGA and registrants of seed treatments containing lindane would be greatly appreciated" (Exh. B-12).
175. Another element confirming that agreement on the terms of the Withdrawal Agreement was reached in November 1998 is the action taken thereafter by the PMRA and the EPA. As mentioned above at para. 17, on 2 December 1998, Canada and the United States entered into the ROU (Exh. B-13), which provided *inter alia* that "Canadian canola growers have requested Canadian registrants to agree voluntarily to remove canola/rapeseed claims from labels of registered canola seed treatments containing

lindane by December 31, 1999. All commercial stocks [of pesticide] containing lindane for use on canola and lindane treated canola seed would not be used after July 1, 2001. This is contingent on registrants requesting voluntary removal. EPA, PMRA, growers and registrants will continue to work together to facilitate access to replacement products". (Mem., para. 75; C-Mem., para. 100).

176. Thus, at the time when the Withdrawal Agreement was made, the date of 1 July 2001 had a clearly defined meaning; it was the deadline for the use of any lindane-treated seed.

177. During December 1998, the Claimant publicly conveyed its commitment to the Withdrawal Agreement as reached at the 24 November 1998 meeting, including the 1 July 2001 deadline for the use of lindane-treated seeds. At the same time, the Claimant made attempts at extracting more favourable treatment from the PMRA. As bluntly stated in a contemporaneous internal document of the Claimant:

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 [sic] and do not wish to share this with our competitors.

The position we are talking [sic] publicly is, "We have agreed to the voluntary withdrawal of Lindane by January 31, 1999, at the request of the Canola growers". Upon input from growers and the industry we have requested expeditious registrations of our new Gaucho formulations (Exh. TZ-45).

178. The Tribunal must take into account this evidence to assess whether the PMRA acted unfairly and inequitably in interpreting the 1 July 2001 deadline as it was spelled out in the CCGA's letter of 26 November 1998, the ROU and understood by all the other actors, including the Claimant at least in its public statements.

179. In the Tribunal's opinion, the disingenuous position taken by the Claimant with respect to the content of the Withdrawal Agreement cannot justify a "reasonable" or "legitimate" expectation to be treated in disregard of the 1 July deadline in the meaning just established. Article 1105 of NAFTA seeks to ensure that investors from NAFTA member States benefit from regulatory fairness. When facilitating the conclusion of the Withdrawal Agreement, the PMRA precisely intended to ensure regulatory fairness. On cross-examination, Ms. Sexsmith confirmed such intent in the following terms:

Q. But my--I guess my question is: It wasn't the obtaining of the withdrawal of each Registrant, but that it be done on identical conditions for each. Was that within the purview of the PMRA? Or was that at the insistence of the PMRA, that the conditions on each would be identical?

A. Well, you know, under normal principles of regulatory fairness, it would have to be the case. I mean, normally, we try to treat Registrants in the same fashion. And under something like that, I don't see how an agreement could work if, in fact, one Registrant was getting one thing and another Registrant was getting another.

Q. Well, taxation authorities, for example, are perfectly happy to take more money away from people who have more than people who have less, and more referring to equality of treatment among equal participants would be appropriate in what you have just stated.

A. Well, certainly the intent under the Voluntary Agreement, for our role at least, was to treat all of the Registrants the same (Tr., 5 September 2009, 787:4-22).

180. Consequently, the Tribunal reaches the conclusion that the second measure identified by the Claimant in its Post-Hearing Brief was not in breach of Article 1105 of NAFTA.

d. Cancellation of Chemtura's lindane registrations on 11 and 21 February 2002

1. Claimant's position

181. As the third and fourth measures in breach of Article 1105(1) of NAFTA, the Claimant identified the termination of Chemtura's lindane registrations, despite the availability of less prejudicial avenues, and the prohibition imposed on Claimant to sell any lindane products thereafter. According to the Claimant, such breaches materialized on 11 and 21 February 2002. At the closing hearing, the Claimant specified that notwithstanding the reference on page 53 of its Post-Hearing Brief to "Cancellation of Chemtura's Lindane for Canola Registrations", it means to refer to its *non-canola* lindane registrations (Tr., 17 December 2009, 1460-1461). Thus, both the third and the fourth measures complained of by the Claimant concern *non-canola* lindane registrations.

182. The Claimant referred in this connection to the Pesticide Control Products Regulations which allow for a phase-out of the targeted products. The Claimant argues that it was unreasonably deprived of such phase-out right, despite having provided the sales and inventory information requested by the PMRA in order to be granted a phase-out, on the basis of the fact that Chemtura Canada had stated that it was not concurring with the proposed "voluntary" discontinuation and had not provided the required letter of "voluntary" discontinuance by the 31 January 2002 deadline (PHB Cl., para. 119). The Claimant considers such deprivation as a punitive measure taken by the PMRA against the Claimant because it had refused the PMRA's proposal that it "voluntarily" withdraw its lindane registrations for use on canola (PHB Cl., para. 115 ff).

2. Respondent's position

183. The Respondent objects in essence that (i) Article 1105 of NAFTA does not prescribe minimum phase-out periods, nor does it limit the discretion of regulators to take steps in compliance with their duty to protect public health and the environment (PHB Resp., para. 112); (ii) nothing in the evidence suggests an abuse of discretion that would amount to a breach of the international minimum standard of treatment (PHB Resp., para. 112); (iii) the Claimant was not unfairly deprived of a phase-out, as it was actually offered one pursuant to section 16 of the Regulations, like the other lindane product registrants, and refused it; (iv) the Claimant's products already delivered to vendors were in fact allowed to remain in the market until exhaustion, in accordance with section 22 of the Regulations (PHB Resp., para. 116 ff).

3. Tribunal's determination

184. The two measures challenged by the Claimant followed the results of the Special Review of lindane conducted by the PMRA. As already noted, there is no evidence in the record that such review was conducted unfairly or in bad faith; quite to the contrary, there is ample evidence that the use of lindane caused genuine concerns, both in Canada and abroad. This is the context in which the Tribunal must assess the Claimant's argument that it was deprived of a phase-out as a punitive measure taken by the PMRA.

185. Under the Pesticide Control Products Regulations, the Minister can cancel or suspend a registration of a control product when, on the basis of the current information available, the safety of that product is deemed no longer acceptable (Exh. R-2; PHB Cl., para. 115; PHB Resp., para. 114).

186. On the basis of the results reached by the Special Review of lindane, the PMRA held consultations with affected registrants. Following a conference call held on 13 December 2001, the PMRA advised the Claimant on 19 December that the termination of lindane products remained warranted and that "[s]uch termination could be effected through phase-out by suspension of registrations or voluntary discontinuation". The letter further stated that the PMRA felt that "the option of voluntary discontinuation, pursuant to section 16 of the Pest Control Products Regulations, proposed by some of the registrants would achieve the Agency's goal while addressing the identified needs of users" (Exh. B-56). This letter further requested registrants to provide information

regarding existing inventory and historical sales for registered products by 4 January 2002.

187. In a letter of 17 January 2002, the PMRA noted that the Claimant had not sent the information requested and that telephone calls to staff of the Claimant (Messrs. Parsons and Dupree) had not been returned. The PMRA nevertheless reiterated that it was "prepared to accept the phase-out of lindane products through voluntary discontinuation in accordance with the terms and conditions outlined in that letter [of 19 December 2001]" (Exh. B-57). It continued as follows:

Should you choose to voluntarily discontinue sales of your products as indicated, we request that you provide the information regarding existing inventory and historical sales requested in our letter of December 19, 2001 by January 24, 2002. If this information is not received by PMRA by January 24, 2002, this would be taken as indication of your intent not to discontinue sales of these products voluntarily, and, as a result, action would be taken under the authority of section 20 of the Pest Control Products to suspend the affected registrations on January 25, 2002 (Exh. B-57).

188. By letter of 23 January 2002, the Claimant provided 5-year sales figures and inventory information with respect to a number of products. It stated however that "[i]n providing this information Crompton in no way concurs with the PMRA's proposal for voluntary discontinuance under the Pest Control Products Act" (Exh. B-58).

189. Thereafter, by letters of 11 and 21 February 2002, the PMRA advised the Claimant that, under the circumstances, it observed that the Claimant had chosen not to accept the option of voluntary discontinuation of sales (Exh. B-59, B-61). It therefore suspended the registrations of the eight products referred to in those letters.

190. As noted above, the Claimant argues that the cancellation of its remaining lindane registrations was a punitive measure. The Tribunal does not agree. The record shows that the PMRA was not legally required to grant a phase out through voluntary discontinuation. At the hearing, Ms. Sexsmith testified that the phase-out procedure was a standard regulatory practice in the context of re-evaluation of older products:

Typically for older products that have been on the market for a long time, the whole purpose of re-evaluation is to examine those products and make sure they meet current standards, and in this case lindane did not. And so a reasonable course of action is that it can be allowed to be phased out of the marketplace as opposed to, you know, an urgent kind of action with imminent risk. And this is quite a normal process for regulatory programs all over the world (Tr. 5 September 2009, 845:3-10).

191. The question then becomes whether the PMRA followed its standard regulatory practice with respect to the Claimant. As shown by the evidence reviewed above, this was clearly the case. At the hearing, Ms. Sexsmith confirmed that the Claimant was offered the same options as the other registrants, and decided not to make use of them:

Q. So, I guess I don't understand how the refusal to exercise a discretion assisted in the management of risk. If anything, it accentuated it by, if I could put it this way, playing hard ball?

A. Mm-hmm.

Q. Didn't it?

A. Well, I don't see it that way. I think Chemtura had the same options that the other Registrants had. They chose not to take it. PMRA was left with no option, given the unacceptable risk issue. They had to take a stand and take an action, and so that's what was done (Tr., 5 September 2009, 845:21-25, 846:1-6).

192. Under the circumstances, the Tribunal considers that the offer made in December 2001, and reiterated in January 2002 despite the elusive behaviour of the Claimant, was sufficient to satisfy the standard of treatment required by Article 1105 of NAFTA. Taking into account that the PMRA had discretion as to whether or not to offer a phase out through voluntary discontinuation, as it is acknowledged by the Claimant in the very question put to Ms. Sexsmith, and that in the exercise of such discretion it afforded the Claimant the same treatment as all the other affected registrants, the Claimant's argument of "punitive" behaviour on the part of the PMRA is obviously unfounded.

193. As a result, the Tribunal is of the opinion that the third and fourth measures identified by the Claimant in its Post-Hearing Brief were not in breach of Article 1105 of NAFTA.

e. Treatment of Gaucho CS FL

1. Claimant's position

194. The fifth and last measure identified by the Claimant as a breach of Article 1105 is the PMRA's failure to accord expedited treatment to the registration of Gaucho CS FL contrary to the Claimant's and Crompton Canada's legitimate expectation arising from the PMRA's commitment under the Withdrawal Agreement. According to the Claimant, this breach lasted from 27 March 2000 to 17 July 2002.

195. The Claimant further argues, that the PMRA "unnecessarily and, indeed inexplicably, thwarted the timely registration of Gaucho CS FL at every turn, while pushing Helix and Helix Xtra through the registration at breakneck speed" (PHB Cl., para. 121), thus discriminating between Chemtura Canada and Syngenta, the manufacturer of Helix and Helix Xtra. More specifically, despite the commitments of the PMRA under the Withdrawal Agreement and despite the fact that the Gaucho CS FL registration was simpler from the regulatory and chemical perspectives (as a category B submission), the registration of Gaucho CS FL took twice as long as the standard timeline, whereas the registration of Helix and Helix Xtra (a more complex category A submission) took far less than the standard time. The Claimant stresses that each stage of the registration process was marked by disparities between the registration of Gaucho CS FL, on the one hand, and that of Helix and Helix Xtra, on the other hand (PHB Cl., para. 120 ff).

196. Furthermore, the PMRA failed to maintain a transparent regulatory environment, as its management of registration applications for lindane replacement products lacked transparency and was highly suspect:

The critical point for the Tribunal to understand is that PMRA processed the Helix/Helix Xtra submissions incredibly quickly, without following its own procedures, and making numerous concessions to ensure its rapid approval. In the case of Helix, in order to meet the demand for an alternative to lindane, PMRA cut corners and conducted an incomplete scientific review, and granted Helix a temporary registration, notwithstanding the numerous deficiencies in the registration application (PHB Cl., para. 142).

2. Respondent's position

197. As noted in paragraph 167 *supra*, the Respondent argues as a general matter that (i) the hearing confirmed that the Withdrawal Agreement was an industry-led agreement, driven by the industry's business concerns, and that the PMRA only intervened as a facilitator, subject to the condition that the agreement was voluntary and treated all registrants equally (PHB Resp., para. 119); (ii) the Claimant freely consented to the Withdrawal Agreement and took the benefit of it (PHB Resp., para. 119); (iii) the expectations or terms that the Claimant wants to derive from such agreement were misstated or unreasonable and are not protected by Article 1105 of NAFTA (PHB Resp., para. 148 ff); (iv) in any event, to the extent that the PMRA agreed to do anything in connection with the Withdrawal Agreement, it substantially lived up to the expectations it may have created (PHB Resp., para. 168).

198. More specifically, the Respondent argues that the PMRA gave only limited undertakings, in connection with the replacement products. It stresses that the documents on which the Claimant relies to establish the terms of the Withdrawal Agreement, namely the letters exchanged by Mr. Ingulli and Dr. Franklin on 27 and 28 October 1999, do not mention replacement products. It further emphasizes that the letter of 26 November 1998 from the CCC, which the Claimant invokes in respect of replacement products, aside from being otherwise inconsistent with the Claimant's case, contained only a general commitment to work with registrants. Moreover, when in its letter to the CCC of 23 February 1999, the PMRA committed to review three expedited replacement products, Gaucho, Helix, and Premiere Z, Gaucho CS FL was not even in the queue, since it was submitted more than a year later in March 2000 (PHB Resp., para. 179).

199. The Respondent's further submission is that the PMRA fulfilled its commitment as far as the Claimant is concerned through the registration of Gaucho 75ST and Gaucho 480FL. Finally, it asserts that there is no indication that the PMRA favoured or had any reason to favour Helix to the detriment of Gaucho CS FL. The registration of Gaucho CS FL followed a standard procedure and any delay was substantially due to Chemtura's own failure to provide the data required for the review and Chemtura's decision to rely on potential data waivers. In any event, Article 1105 of NAFTA does not hold government agencies to a standard of perfection, nor *a fortiori* does it elevate an agency's internal and non-binding own good faith targets into a rigid standard of liability (PHB Resp., para. 177 ff).

3. Tribunal's determination

200. The fifth and last measure allegedly in breach of Article 1105 involves five contentions that the Tribunal deems it important to disentangle. First, the Claimant argues that, as part of the Withdrawal Agreement, the PMRA committed to an expedited review of replacement products. Second, the Claimant further argues that that commitment applied not only to the registration of Gaucho 75ST and Gaucho 480FL, but also to the registration of Gaucho CS FL. Third, according to the Claimant, the registration of Gaucho CS FL was unreasonably delayed as compared to the registration timeline normally applied by the PMRA. Fourth, the Respondent discriminated against it by delaying the registration of Gaucho CS FL compared to Helix.

201. Regarding the first and second contentions identified above, the Tribunal must assess whether and to what extent the PMRA obligated itself in the Withdrawal Agreement to expedite the registration of replacement products. As discussed in paragraphs 169-177 above, the Tribunal considers that the Withdrawal Agreement between the canola growers and the relevant registrants was reached in November 1998. The Claimant seems to acknowledge that the contents of the Withdrawal Agreement on this specific point must be assessed on the basis of the letter of 26 November 1998 from the CCGA to the PMRA (PHB Cl., para. 123, footnote 106). The Tribunal notes in passing that this is inconsistent with the Claimant's contention, made in the context of its other arguments, according to which the contents of the Withdrawal Agreement are to be found in the exchange of letters of October 27 and 28, 1999, between Mr. Ingulli and Dr. Franklin. Despite such inconsistency, the Tribunal is of the view that the relevant time for assessing the existence and the extent of any such undertaking by the PMRA is indeed November 1998.

202. The letter from the CCGA to the PMRA of 26 November 1998 stated in relevant part that

Registrants of seed treatments containing lindane and other meeting participants agreed to the following:

[...]

3. The Pest Management Regulatory Agency (PMRA) and the U.S. Environmental Protection Agency (EPA) will continue to work with registrants to facilitate access to lindane replacement products. The Canadian Canola Growers Association (CCGA) and the Canola Council of Canada (CCC) agree to work with the aforementioned bodies to facilitate these activities (Exh. B-12)

203. The letter went on to state, under the heading "related issues" that

1. [M]eeting participants agreed to the following work plan: 1. Stakeholder meetings to be scheduled for June and October to review progress toward the approval of lindane replacement products

[...]

5. Action time line:

a) November 30, 1998 – registrants agree in writing to the voluntary removal of canola/rapeseed claims from any seed treatments containing lindane by December 31, 1999. Written agreement sent to Dr. Claire Franklin, Executive Director PMRA.

[...]

c) December 31, 1998 – any registrant wishing to gain approval for a lindane-free seed treatment in time for the 1999 canola seeding must make a formal request to PMRA. This applies only to requests in which lindane is removed from existing formulations of approved seed treatments (Exh. B-12).

204. On 17 December 1998, the Claimant wrote to the Executive Director of the PMRA stating that it agreed to voluntarily remove canola from the product labels of its lindane-based seed protectants by the end of 1999 subject to a number of provisos, including the following:

2. PMRA has granted the registration of the imidacloprid insecticide-based formulations Gaucho 75ST and Gaucho 480 for use on canola for planting in Canada at least six-months prior to the withdrawal of canola from the labels of Uniroyal Chemical Co. Lindane-based seed treatments. Research permits shall also be granted by PMRA by March 1, 1999 to allow large scale-evaluation of the performance of these products for the control of flea-beetle under a wide variety of end-use conditions

[...]

4. A "lindane-free" carbathiin-thiram fungicide formulation will be approved for registration by PMRA for use on canola by February 1, 1999. Uniroyal Chemical Co. will make a registration submission for this product to PMRA by December 31, 1998, and as discussed with PMRA, the submission will consist of a completed Product Specification Form and draft Product Label. Also as agreed, the "lindane-free" formulation will consist essentially of one of the currently registered Uniroyal Chemical Co. Carbathiin-thiram-lindane formulations as a basis, but with the lindane insecticide removed, and the remaining formulation re-balanced with inert formulants.

5. A "lindane substitution" product will be approved for registration by July 1, 1999, consisting of the active ingredients carbathiin-thiram-imidacloprid, and based on the currently registered Vitavax rs Dynaseal formulation containing carbathiin-thiram-lindane. Tolerances for carbathiin will be established and harmonization activity between PMRA and EPA will ensure this product is also registered in the U.S. (Exh. B-12).

205. The PMRA's Executive Director, Dr. Franklin, responded on 9 February 1999. She mentioned that the Claimant had "submitted a lindane-free fungicide formulation for use on canola and is interested in a priority review" and then noted that

[the] PMRA has committed to fast tracking these simple formulation changes, given the importance of lindane-free formulations to the grower community.

I understand your interest in having alternative products to fill the void that would be created by voluntary removal of lindane from your current canola/rapeseed dressing formulation. This same need, not surprisingly, is also seen by other suppliers. Recognizing the scope of this challenge and the range of clients requesting fast track consideration, we are in the process of developing an orderly approach to this special need situation. It will be important to respond to all of these requests in an equitable manner.

Regardless of the process that emerges, it will not entail a predetermined position to register products prior to reviewing supporting information. The Agency cannot establish the outcome of an assessment in advance of the review process. The Agency will be in touch with you and other interested clients as soon as possible regarding appropriate process and procedures to expeditiously handle lindane applications (Exh. B-15).

206. The Claimant replied on 2 March 1999, noting *inter alia* that "[the] company's offer to remove canola/rapeseed from [sic] the labels of Uniroyal Chemical seed treatments that contain lindane was subject to several provisions, including the issuance of several registrations, assuming of course, a clean PMRA review" (Exh. B-16). In response, Dr. Franklin wrote on 25 March 1999 that the PMRA had not committed to register replacement products but only to work in good faith with growers and registrants towards this end:

Although the voluntary agreement does not promise registration of replacements for lindane seed treatments for Canada, the Pest Management Regulatory Agency (PMRA) is committed to working with growers and registrants to facilitate access to alternatives.

To this end, we are working with registrants and a number of active ingredients that may emerge as viable alternatives for lindane in canola seed during applications. The Agency cannot establish the outcome of an assessment in advance of the review process, and therefore, cannot predict whether Uniroyal and Gustafson will have a registered product replacement (Exh. B-17).

207. As evidenced by the letter of 26 November 1998 and the following exchange of correspondence, the PMRA did not commit to the expedited registration of replacement products. It committed to work in good faith to facilitate such expedited registration, without thereby jeopardizing the standards of review of each application. It is undisputed that, by November 1999, the PMRA had issued registrations for two of the Claimant's replacement products, namely Gaucho 75ST and Gaucho 480FL. This is a strong indication of PMRA's efforts in facilitating expedited registration.

208. As to the question whether the same commitment applied also to Gaucho CS FL, such a commitment is neither specifically acknowledged nor excluded in the aforementioned correspondence. There is evidence however that the commitment extended to products that were in the queue between the end of 1998 and the beginning of 1999.

209. A letter which Dr. Franklin sent to Mr. Zatylny of the CCC on 23 February 1999 is relevant in this connection:

The Agency currently has registration submissions on hand for three active ingredients that may emerge as viable alternatives for lindane in canola seed dressing applications. In addition, we have been approached by manufacturers regarding additional compounds that may be of future interest; however, these additional compounds are some time away from actual submission.

The Agency is cognisant of the trade implications arising from the current divergence in lindane's regulatory status, the U.S. versus Canada, and is interested in addressing this challenge in the most efficient and effective way possible. This will entail priority review of each of the three current

candidates and continuing to advance only those that have a complete and reviewable submission, with a view to having at least one lindane alternative available for the 2000 crop year.

The Agency will not entertain additional candidates within these time frames. To do so would jeopardize the chances of having any candidate emerge successfully and on time to be of value for the year 2000.

Registrants are encouraged to submit applications as soon as possible so that there is the potential for other products to be assessed and available for the 2001 crop year (Exh. JB-13).

The Tribunal understands that the PMRA intended to focus its resources on expediting the review of the products already submitted at the time. Although the letter is not entirely clear as to whether other products submitted "as soon as possible" would also be considered for expedited review, the context of the latter passage suggests that Dr. Franklin meant to refer to the products of "future interest" mentioned in the first passage. Moreover, the letter clearly states that "[t]he Agency will not entertain additional candidates within these time frames", which seems to exclude other products from the expedited timeframe. In any event, the application for Gaucho CS FL would only be submitted much later, more than 13 months after that letter.

210. This understanding is confirmed by the internal documents of the Claimant itself. In an email dated 13 July 1999 referring to the results of a meeting organized by the CCC which representatives of the registrants, the PMRA, the CCC and the North Dakota Grower's Association attended, Mr. Ingulli wrote that: "my interpretation of the cc Mail which follows is that Gaucho will be registered for canola before 12/30/99 causing us to proceed with a voluntary cancellation of canola uses for RS. Is this correct?" (Exh. R-336). Mr. Dupree, who had been present at the meeting, replied as follows: "AI: This is correct. I was contacted by PMRA yesterday and they informed me the review for the two Gaucho formulations is nearing completion. The two products will be granted a registration for one year which will have to be renewed. A full registration will be approved once the residue data from Canada has been reviewed" (Exh. R-336). At the hearing, Mr. Kibbee, at the time Formulation Manager and Manager of Registrations with Gustafson Partnership, recognized that the two products which, if registered, would cause the Claimant to proceed with the voluntary cancellation of canola uses for RS (i.e. Vitavax RS Flowable, Tr., 3 September 2009, 361:16) under the terms of the Withdrawal Agreement, were Gaucho 75ST and Gaucho 480FL (Tr., 3 September 2009, 361:1-4). This is further confirmed by the letter of 21 October 1999 from Dr. Franklin to Mr. Ingulli, which after restating the conditions agreed in November 1998, states that "with respect to PMRA's commitment to facilitate access to replacement

products, Gaucho™ was registered¹⁴ for use in Canada in July, as a result of a priority review; three lindane free formulations have been registered; and reviews are continuing on the two other products" (Exh. B-23).

211. As a result, the Tribunal considers that the commitment of the PMRA to work in good faith to facilitate the registration of replacement products did not apply to Gaucho CS FL, which was only submitted months later in March 2000. Therefore, in order to establish a breach of Article 1105 of NAFTA, the Claimant must prove that the PMRA did more than merely not expediting the review of Gaucho CS FL. It must demonstrate that the PMRA unfairly delayed the registration process.
212. The Claimant sought to establish this by comparing the time that was actually required for the registration of Gaucho CS FL to the registration timeline normally applied by the PMRA, and the time that was required for the registration of two competing replacement products, namely Helix and Helix Xtra (PHB Cl., Appendix A, para. 2). Its argumentation is set out in detail in Appendix A to its Post-Hearing Brief.
213. In Appendix A, the Claimant complains about several "queues" that unnecessarily extended the time in which the PMRA reviewed the application for Gaucho CS FL through the different phases of the evaluation process. The Claimant stresses that in many cases once the application was picked up by a PMRA officer after a long queuing period, it required a relatively short time for the application to be evaluated and moved to the following level. The Claimant further notes that overall the registration process of Gaucho CS FL took 848 days (28 months), when it should not have taken more than 15 months (PHB Cl., para. 129). By contrast, the process for Helix Xtra and Helix, which, according to the Claimant, were more complex replacement products (category A instead of category B, as was Gaucho CS FL), took 742 and 79 days respectively.
214. The Respondent has replied, relying mostly on the testimony of Ms. Chalifour, a senior PMRA official involved in evaluations, that deficiencies in the Claimant's submissions resulted in additional delays. According to the Respondent, discounting the delays attributed to the Claimant, the total days spent by the PMRA on the application between the date of submission and the date of registration amounted to 779 days, as compared with a standard performance rate of 612 days (Exh. 366). The Respondent also notes that Helix Xtra and Helix were evaluated according to a different process,

¹⁴ The Tribunal understands the term "registered" used in Dr. Franklin's letter as "approved for registration" in the meaning used by both parties (Exh. R-366; PHB Cl., Appendix B).

the Joint Review with the EPA, and took much longer than the regulatory target (PHB Resp., para. 194). Helix Xtra's first submission was even rejected. The Respondent has further stressed that in all events "[t]he 'delay' in reviewing Gaucho [CS FL] was one calculated in relation to the PMRA's own internal, non-binding performance standards. Article 1105 does not hold government agencies to a standard of perfection, nor *a fortiori* does it elevate an agency's own good-faith targets (which it might not establish at all) into a rigid standard of liability" (PHB Resp., para. 187).

215. In assessing whether the time used by the PMRA to register Gaucho CS FL was excessive and discriminatory to a point that it entailed a breach of Article 1105, the Tribunal must take into account the obvious fact that the operation of complex administrations is not always optimal in practice and that the mere existence of delays is not sufficient for a breach of the international minimum standard of treatment. This is not to say that a violation must be outrageous in order to breach such standard. As noted by the tribunal in *Waste Management v. Mexico*, by reference to two previous decisions by NAFTA panels:

Both the Mondev and ADF tribunals rejected any suggestion that the standard of treatment of a foreign investment set by NAFTA is confined to the kind of outrageous treatment referred to in the Neer case, i.e. to treatment amounting to an "outrage, to bad faith, to wilful neglect of duty, or to an insufficiency of governmental action so far short of international standards that every reasonable and impartial man would readily recognize its insufficiency".¹⁵

In *GAMI v. Mexico*, the tribunal derived four implications from *Waste Management* that are particularly apposite for the present discussion:

Four implications of *Waste Management II* are salient even at the level of generality reflected in the passages quoted above. (1) The failure to fulfil the objectives of administrative regulations without more does not necessarily rise to a breach of international law. (2) A failure to satisfy requirements of national law does not necessarily violate international law. (3) Proof of a good faith effort by the Government to achieve the objectives of its laws and regulations may counter-balance instances of disregard of legal or regulatory requirements. (4) The record as a whole – not isolated events – determines whether there has been a breach of international law.¹⁶

¹⁵ *Waste Management Inc. v. Mexico*, ICSID Case No. ARB(AF)00/3, Award of 30 April 2004, para. 93.

¹⁶ *GAMI Investments, Inc v. Mexico*, NAFTA case (UNCITRAL), Award of 15 November 2004, para. 97.

It is in this light that the Claimant's contentions must be assessed. Such assessment must take into account that, unlike in *GAMI*, the standards allegedly breached are regulatory performance targets or commitments to collaborate in good faith.

216. The record as a whole shows that the concerns about lindane were legitimate and that, in participating in the process leading to the Withdrawal Agreement, the PMRA was only facilitating an industry-led process. The record further shows that the PMRA acted in good faith in expediting the registration of two of the Claimant's replacement products, Gaucho 75ST and Gaucho 480FL. This is the general context in which the delays identified by the Claimant must be assessed.
217. As noted above, the Claimant stresses that the process of registration took roughly twice as much time (28 months instead of 15 months) as it should have taken, with unjustified delays, especially at levels B (which took 118 days instead of the standard 45 days) and D of the evaluation process (where it remained in the queue for 360 days, before being treated and completed in 20 days). The evidence adduced by the Respondent to explain such delays points mostly to insufficiencies in the Claimant's application for the registration of Gaucho CS FL.
218. The evidence shows that the responsibility for the delays cannot be attributed in its entirety to either the PMRA or the Claimant. The Claimant's initial application was incomplete. Although the deficiencies pointed by the PMRA were then rectified, such back-and-forth process entailed additional queuing periods, a fact attributable to the Claimant. By contrast, some of the queuing periods were very long. Part of the delay may have been justified by the need to process other applications, but the excessive length of some queuing periods appears due to action of the Respondent.
219. However, this factual conclusion does not mean that, in the light of the record as a whole, the delays attributable to the PMRA give rise to a breach of the international minimum standard. Although not conclusive, one may repeat, there is no indication of bad faith on the part of the PMRA. The registration of Gaucho 75ST and Gaucho 480FL suggests the opposite conclusion.
220. Moreover, the time used by the PMRA for the evaluation, respectively, of Helix Xtra, Helix and Gaucho CS FL, was not fundamentally different from that used by the EPA, even using the Claimant's figures. The tables prepared by the Claimant indeed show that the evaluation procedures in both Canada and the United States followed a similar

pattern, taking roughly 2 years for Helix Xtra, 3 months or less for Helix, and between 28 (Canada) and 33 (United States) months for Gaucho CS FL (PHB Cl., Appendix C). The Tribunal is aware that the processes before each regulatory agency are not exactly the same, but the similarity of the pattern suggests that the time used by the PMRA to evaluate these three products was not abnormal.

221. In addition, the Claimant's argument that the PMRA treated Gaucho CS FL in a discriminatory manner is inconsistent with the undisputed fact that the PMRA rejected the first submission of Helix Xtra. As acknowledged by the Claimant in its Post-Hearing Brief, after Helix Xtra was rejected "the only insecticide-fungicide product being considered by the PMRA that (in theory) could have been available in time for the upcoming 2001 season was Gaucho CS FL. One might have thought that the PMRA would be devoting resources to the Gaucho CS FL submission, given that the industry had no practical alternatives to lindane for 2001. As is now known, of course, Helix was available in time for the 2001 season [...]" (PHB Cl., para. 136). This comment suggests that there was some pre-established more favorable treatment agreed between Syngenta and the PMRA. Yet, evidence in the record contradicts this. After Syngenta resubmitted an application for Helix, including *inter alia* a new worker exposure study, the PMRA applied the same safety factor of 1000, which according to the Claimant was excessively conservative (Tr., 3 September 2009, 461:6-13).
222. Also, as noted by Ms. Sexsmith in her oral testimony, the PMRA did not support all the uses of Helix that were supported by the EPA: "Helix [...] is one [case] where both countries agreed to the canola use, but a number of other uses were not supported in Canada while they were supported in the U.S. at that point in time. Canada needed some additional data because of the way we did the risk cup in order for us to consider some additional uses." (Tr., 5 September 2009, 917:2-8).
223. One might further think of measuring the materiality of the delays by looking at their economic impact. As the record stands at the close of this arbitration, this avenue leads nowhere. The Claimant claims no independent damages on this account (PHB Cl., para. 181, Table 1, row d). As it stated at the closing hearing in answer to a question from the Tribunal, another measure of the delays in the registration of Gaucho CS FL is provided by the impact on the economic situation of the Claimant. In both its Post-Hearing Brief and its closing argument, the Claimant derived no damages from the allegedly unreasonable delays in the registration of Gaucho CS FL (PHB Cl., para. 181, Table 1, row d). Asked at the hearing about this impact by one of the members of the

Tribunal, the Claimant stated the following: "obviously we haven't accounted for independent damages arising from the delay itself. Claimant's eggs are in the basket of the treatment of lindane itself for damages purposes as well" (Tr., 17 December 2009, 1446:18-21). It then added that:

"while it's obviously a positive number because it kept the material off the market for a calculable period of time, we do not have in the record a number that we can present as ascribable exclusively to the Gaucho delay" (Tr., 17 December 2009, 1147, see also 1146: 18-21).

In response to another question from the Tribunal (Tr., 17 December 2009, 1448: 1-9), the Claimant insisted that its case was "one of a consistent pattern of conduct driven to a particular agenda in relation to this particular Investor" (Tr., 17 December 2009, 1448:11-13). Claimant, having formulated its case to the end in this way, must be held to its formulation.

224. In sum, the Tribunal understands the position of the Claimant to be that the delays in the registration of Gaucho CS FL are in breach of Article 1105 of NAFTA because they are part of a consistent pattern of unfair conduct. However, as discussed in detail in the sections dealing with the different measures identified by the Claimant, the record does not show such a pattern of unfair conduct. Even if the delays were to be considered in isolation, they are not sufficient to prove bad faith or lack of fairness of the part of the PMRA amounting to a breach of Article 1105 of NAFTA.

225. As a consequence, the Tribunal holds that the fifth measure identified by the Claimant in its Post-Hearing Brief was not in breach of Article 1105 of NAFTA.

C. MOST FAVOURED NATION CLAUSE AND FAIR AND EQUITABLE TREATMENT

1. Claimant's position

226. The Claimant argues that if the Tribunal holds that the standard under Article 1105 is less favorable than the independent FET standard provided in third party BITs to which Canada is a party, the Claimant is entitled to receive the more favorable treatment by virtue of NAFTA Article 1103 combined with a third party BIT (Mem., par. 451). It refers to 16 BITs signed by Canada and entered into force after January 1, 1994, which provide for FET in accordance with "international law" or the "principles of international law" (Mem., par. 489), and which "stand in contrast to the NAFTA and to a limited number of bilateral treaties in which fair and equitable treatment is specifically tied to

the minimum standard of treatment provided for in customary international law" (Mem., par. 490).

227. According to the Claimant, the conduct of Canada of which it complained under Article 1105 of NAFTA, must in the alternative be deemed to breach the FET standard applicable by operation of Article 1103 of NAFTA (Mem., par. 494).

2. Respondent's position

228. The Respondent contends that Article 1103 is a limited MFN provision which does not import treaty standards at large (C-Mem., par. 16). Moreover, the standard of treatment in Canada's post-NAFTA investment agreements is not different from the NAFTA standard, as they all point to the customary international minimum standard of treatment (PHB Resp., para. 231). Furthermore, the Claimant's interpretation of Article 1103 of NAFTA ignores that Chemtura was treated in the same manner as all other registrants, whether Canadian or foreign.

229. More specifically, the Respondent argues that the Claimant has failed to establish any of the legal elements necessary for a breach of Article 1103. In particular, it fails to establish (i) that a "treatment" was accorded; (ii) that such treatment was "with respect to the establishment, acquisition, expansion, management, conduct, operation, and sale or other disposition of investments"; (iii) that such treatment was accorded "in like circumstances"; and (iv) that it was "less favourable" than the treatment accorded to investors or investments of a non-Party (C-Mem., para. 852, 859 ff).

230. Even if Article 1103 allowed the import of treaty standards at large, the PMRA accorded fair and equitable treatment to Chemtura at all relevant times, no matter how extensively one defines the scope of that phrase (C-Mem., para. 16, 852, 907 ff).

3. Tribunal's determination

231. In paragraphs 100-105 above, the Tribunal concluded that it had jurisdiction over the claim brought by the Claimant under Article 1103 of NAFTA.

232. Article 1103 of NAFTA reads as follows:

1. Each Party shall accord to investors of another Party treatment no less favorable than that it accords, in like circumstances, to investors of any other Party or of a non-Party with respect to the

establishment, acquisition, expansion, management, conduct, operation, and sale or other disposition of investments.

2. Each Party shall accord to investments of investors of another Party treatment no less favorable than that it accords, in like circumstances, to investments of investors of any other Party or of a non-Party with respect to the establishment, acquisition, expansion, management, conduct, operation, and sale or other disposition of investments.

233. Aside from the initial allegation of less favorable treatment briefly stated in its second and third notices of intent, the Claimant has neither developed nor tried to substantiate its claim under Article 1103 pursuant to which its investment received less favourable treatment than the one afforded to the investment of an investor from another State. It has instead claimed that its investment was discriminated against (i) in breach of Article 1105 or (ii) in the alternative, in breach of an allegedly more favourable FET clause imported from another treaty concluded by Canada by the operation of Article 1103 of NAFTA.
234. As discussed in detail in the section devoted to the claim under Article 1105 of NAFTA, the allegation that the Claimant's investment was discriminated in any form has no factual basis in the light of the evidence on record. It is equally deprived of legal foundation.
235. This said, the Tribunal turns to the alternative claim that the Claimant's investment was treated in breach of a more favorable FET clause applicable through Article 1103 of NAFTA. The Respondent as well as the United States and Mexico in their Article 1128 interventions (US Submission, 31 July 2009; Mexico's Submission, 31 July 2009) firmly oppose of the possibility of importing a FET clause from a BIT concluded by Canada. The Tribunal can dispense with resolving this issue as a matter of principle. Indeed, even if it were admissible to import a BIT FET clause, the conclusions reached by the Tribunal on the basis of the facts would remain unchanged.
236. First, as noted in paragraphs 117-123 above, in determining the standard of treatment set by Article 1105 of NAFTA, the Tribunal has taken into account the evolution of international customary law as a result *inter alia* of the conclusion of numerous BITs providing for fair and equitable treatment. Second, the Tribunal has found no facts in the conduct of the Respondent that would even come close to the type of treatment required for a breach of the FET standard. Quite to the contrary, the record shows that the Respondent treated the Claimant and its investment in good faith and on an equal footing with other registrants of lindane-based products. Third, the Claimant has not

established that the FET clause of any of the treaties to which it indistinctly refers grants any additional measure of protection not afforded by Article 1105 of NAFTA. Fourth and last, the Claimant has in any case not established that the Respondent's conduct was in breach of such hypothetical additional measure of protection allegedly afforded by an imported FET clause.

237. Accordingly, the Tribunal holds that the Respondent did not breach of Article 1103 of NAFTA.

D. EXPROPRIATION

238. After discussing the applicable standard of expropriation, the Tribunal will analyze the facts alleged by the Claimant in connection with its claim of expropriation.

a. Applicable standard

1. Claimant's position

239. With respect to the applicable standard, the Claimant puts forward the following arguments: (i) the concept of "measure" is defined in Article 201(1) NAFTA as "any law, regulation, procedure, requirement or practice"; (ii) an expropriation may be direct or indirect, as recognized *inter alia* by the tribunals in *Metalclad v. Mexico* and *Pope & Talbot v. Canada*; (iii) the threshold for an indirect expropriation is that of a "substantial deprivation", as noted in *Pope & Talbot*; (iv) the intent behind a measure is irrelevant, as noted in *Tippetts, Biloune v. Ghana*, and *Vivendi II*; (v) expropriation may affect tangible or intangible property, as recognized by *S.D. Myers v. Canada* (Mem., para. 495 ff).

2. Respondent's position

240. According to the Respondent, NAFTA tribunals, and particularly those in *Pope & Talbot v. Canada*, *Metalclad v. Mexico*, and *Methanex v. United States*, have developed a three-step methodology to assess an expropriation claim. The first step consists in determining whether there is an investment capable of being expropriated. The Respondent argues that elements of the value of the enterprise such as goodwill, market share, and customers are not investments under Article 1139 and hence cannot be subject to expropriation. In the event that there is an investment, the next step is to

inquire whether that investment has been expropriated. If it has, then the third step is to assess whether the investment has been expropriated in a manner consistent with the conditions found in Articles 1110(1)(a) to (d), i.e. whether the expropriation is lawful or not (C-Mem., para. 503). The Respondent also notes that under international law an act of compulsion by the expropriating State is required for a finding of expropriation (C-Mem., para. 16, 500, 651 ff).

3. Tribunal's determination

241. Article 1110(1) of NAFTA reads in relevant part as follows:

No Party may directly or indirectly nationalize or expropriate an investment of an investor of another Party in its territory or take a measure tantamount to nationalization or expropriation of such an investment [...] except

(a) for a public purpose;

(b) on a non-discriminatory basis;

(c) in accordance with due process of law and Article 1105(1); and

(d) on payment of compensation in accordance with paragraphs 2 through 6.

242. For a measure to constitute expropriation under Article 1110 of NAFTA, it is common ground that (i) bad faith on the part of the Respondent is not required, and (ii) the measure must amount to a substantial deprivation of the Claimant's investment (Reply, para. 550; C.-Mem., para. 531). Nor is it disputed that, in assessing an expropriation claim, the practice of NAFTA tribunals has been to follow a three-step approach focusing on (i) whether there is an investment capable of being expropriated, (ii) whether that investment has in fact been expropriated, and (iii) whether the conditions set in Article 1110(1)(a)-(d) have been satisfied. However, there is some divergence of views between the Parties on two issues.

243. The first controversial issue is whether elements such as goodwill, customers or market share are covered by the definition of investment given in Article 1139 of NAFTA (C.-Mem., para. 494-529). For purposes of the present case, the Tribunal does not need to determine whether such elements may be considered as investments *per se*, as the Claimant has expressly recognized that this was not its argument (Reply, para. 548). The Tribunal notes, however, that such elements may be accessory to one of the forms of "investments" within the meaning of Article 1139. Thus, goodwill or market position

may indeed be seen as accessories of an "enterprise", which is *per se* an investment under Article 1139 of NAFTA.

244. The second issue in dispute concerns the definition of the "substantial deprivation" test. While both Parties refer to essentially the same NAFTA cases, their understanding of the "substantial deprivation" test diverges, particularly with respect to the use of the criteria identified in *Pope & Talbot v. Canada*, and to the weight of *Metalclad v. Mexico*. Because of this divergence, the Tribunal deems it useful to clarify the content of that test.
245. In *Pope & Talbot*, the tribunal referred to a number of criteria to determine whether there had been an indirect expropriation, including: (i) whether the investor remained in control of its investment, (ii) whether it directed its day-to-day operations, (iii) whether its officers and employees were detained by the State, (iv) whether the State supervised the work of the investor's officers and employees or not, (v) whether the State had taken the proceeds of sales other than through taxation, (vi) whether the State interfered with management or shareholders' activities, (vii) whether the State prevented the distribution of dividends to shareholders, (viii) whether the State interfered with the appointment of directors or management, and (ix) whether the State had taken any other actions ousting the investor from full ownership and control of the investment.¹⁷
246. The Claimant has argued 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 governmental act (or acts) rises to the level of a treaty breach, it is not the exclusive or even a necessary factor in this determination" (Reply, para. 554). The Respondent places much stronger emphasis on the degree of interference with the investor's ownership and control of its investment as part of the substantial deprivation test.
247. In the opinion of the Tribunal, the divergence of views between the Parties regarding the use of the criteria mentioned in *Pope & Talbot* is not fundamental. Indeed, the Respondent has not seriously argued that each such criterion or at least some of them must be present for a deprivation to be "substantial". The criteria must thus guide the inquiry of the Tribunal when it seeks to determine whether the effects of the measures

¹⁷ *Pope & Talbot v. Canada*, UNCITRAL (NAFTA), Award of 26 June 2000, para. 100.

challenged are to "substantially" deprive the investor of the benefit of its investment. This is a matter of degree and not one of specific conditions.

248. This being so, the Parties also disagree on the degree required for deprivation to be substantial. The Claimant has referred to *Metalclad v. Mexico*, where the tribunal reasoned that "expropriation under NAFTA includes [...] also covert or incidental interference with the use of property which has the effect of depriving the owner, in whole or in significant part, of the use or reasonably-to-be-expected economic benefit of property even if not necessarily to the obvious benefit of the host State."¹⁸ Mexico sought judicial review of this award before the Supreme Court of British Columbia on various grounds.¹⁹ Although the award was not set aside on the issue of the definition of expropriation, Justice Tysoe noted that the tribunal's characterization of expropriation was "extremely broad."²⁰ The award in *Metalclad v. Mexico* has given rise to some controversy as to the degree of the required deprivation.
249. The Tribunal is however of the view that it does not need to settle that legal controversy to decide the case before it. The determination of whether there has been a "substantial deprivation" is a fact-sensitive exercise to be conducted in the light of the circumstances of each case. This observation has also been acknowledged by the Parties (Reply, para. 557; C.-Mem., para. 503). One important feature of fact-sensitive assessments is that they cannot be conducted on the basis of rigid binary rules. It would make little sense to state a percentage or a threshold that would have to be met for a deprivation to be "substantial" as such *modus operandi* may not always be appropriate. For instance, one could think of cases where one specific asset (a building, a piece of land, a line of business) which represents a part of the value of all the different assets held by a foreign investor in the host State has been entirely expropriated. In such case, applying a percentage or threshold approach to the overall assets held by the investor in the host State would preclude the deprivation from being "substantial", whereas applying the same assessment to the specific asset in question would lead to the opposite conclusion. Given the diversity of situations that may arise in practice, it is preferable to examine each situation in the light of its own specific circumstances.

¹⁸ *Metalclad Corporation v. United Mexican States*, CASE No. ARB(AF)/97/1, Award of 2 September 2000, para. 103.

¹⁹ *United Mexican States v. Metalclad Corporation*, decision of 2 May 2001, 2001 BCSC 664.

²⁰ *Ibid.*, para. 99.

250. The Tribunal turns then to the analysis of the measures allegedly amounting to an expropriation in breach of Article 1110 of NAFTA.

b. Cancellation of Chemtura's lindane registrations

1. Claimant's position

251. The Claimant argues that the PMRA's suspension of Crompton Canada's lindane product registrations were measures tantamount to expropriation (Mem., par. 519-520). These measures were not taken for a public purpose, as the PMRA had no new, pertinent or reasonable scientific rationale. The measures were in fact triggered by trade considerations and the related pressure from the United States (Mem., para. 521 ff). Moreover, the expropriation of the Claimant's lindane products business in Canada violated due process and was in breach of international law (Article 1105(1) of NAFTA), for reasons explained under the minimum standard heading (Mem., para. 527 ff). Finally, Canada paid no compensation (Mem., para. 531-532).

2. Respondent's position

252. The Respondent argues that only Chemtura Canada, the Claimant's enterprise as a whole, qualifies as an investment capable of being expropriated. Elements of the value of the enterprise such as goodwill, market share, and customers are not investments under Article 1139 and, hence, cannot be expropriated investments for the purposes of NAFTA (C-Mem., para. 500, 516).

253. Further, according to the Respondent, there has been no substantial deprivation of the Claimant's investment (C-Mem., par. 531 ff) because (i) the Withdrawal Agreement and PMRA's subsequent decision to phase out lindane use in general (not only for canola) had only a limited impact on Chemtura Canada; (ii) Canada never controlled the Claimant's investment, directed its operations, took proceeds of sales, intervened in management or shareholder activities, or otherwise interfered with it in any manner that can be characterized as expropriation or conduct tantamount to expropriation. In reality, the Claimant controlled all aspects of Chemtura Canada's operations; was granted an extended phase-out period during which it could deplete its lindane stock; was permitted to sell two replacement pesticide products in Canada even before the beginning of the phase-out period; and was consistently profitable before, during, and after the ban on lindane was instituted (C-Mem., para. 500). According to the

Respondent, the hearing further confirmed that the Claimant was not substantially deprived of its investment (PHB Resp., para. 217 ff).

254. Even if the Tribunal concluded that there was a substantial deprivation of the Claimant's investment, there was still no expropriation because the PMRA's decision to phase out all agricultural applications of lindane was a valid exercise of Canada's police powers to protect public health and the environment (C-Mem., para. 500 and para. 565 ff). The decision of the PMRA to de-register lindane meets the test of this doctrine because (i) it was not made in an arbitrary manner since it respected due process and was based on valid science (C-Mem., para. 596 ff); (ii) it was non-discriminatory (C-Mem., para. 613 ff); (iii) it was not excessive (C-Mem., par. 622 ff); and (iv) it was made in good faith to combat the serious occupational exposure risks posed by lindane (C-Mem., para. 630 ff; PHB Resp., para. 219-220).
255. The Respondent further notes that the hearing confirmed that the Claimant entered into the Withdrawal Agreement voluntarily. As result, it cannot now claim that its investment with respect to lindane use on canola was expropriated (PHB Resp., para. 221 ff).
256. Finally, as there is no expropriation for the Respondent, there is no need to consider the conditions set by Article 1110(1)(a) to (d) for a lawful expropriation (C-Mem., para. 660).

3. Tribunal's determination

257. As noted above, in assessing a claim of expropriation, NAFTA tribunals have followed a three-step approach inquiring (i) whether there is an investment capable of being expropriated, (ii) whether that investment has in fact been expropriated, and (iii) whether the conditions set in Article 1110(1)(a)-(d) had been satisfied. The application of the test is not disputed in the present case, and the Tribunal sees no reason to depart from such approach. There is, however, some divergence of views between the Parties on two issues.
258. The first issue is whether the Claimant had an investment in Canada capable of being expropriated. Despite some initial disagreement as to the identification of the Claimant's investment, the Parties agree that the investment allegedly expropriated is Chemtura Canada (or its predecessors in title) (Reply, para. 537; C-Mem., para. 504ff). Such investment falls squarely under the definition of "investment" given in

Article 1139 of NAFTA, according to which "investment means: (a) an enterprise [...]". The Tribunal also considers, as noted in the foregoing section, that elements such as goodwill, customers or market share, or those covered under the more generic heading of the Claimant's "lindane business" in Canada, are part of the overall investment which Chemtura Canada represented. Therefore, the Tribunal concludes that the first part of the test is satisfied.

259. The second part of the test focuses on whether the Claimant's investment, Chemtura Canada, was in fact "expropriated" or "taken". As discussed above, in assessing whether the Claimant has suffered an indirect expropriation or a measure tantamount to expropriation, the Tribunal must determine whether the measures challenged under this heading, i.e. the cancellation of Chemtura Canada's lindane registrations, amounted to a "substantial deprivation" of the Claimant's investment. As noted by the Tribunal in paragraph 249 above, the determination of whether there has been a substantial deprivation must be based on a fact-sensitive assessment. The Tribunal will thus consider the facts on record which may give the measure or degree of the deprivation allegedly suffered by the Claimant.
260. A first indication of the impact of the measures challenged on the Claimant's overall investment is provided in the Damages Assessment Report presented by the Claimant. In explaining why the book value approach is not suitable in this case, the Claimant's expert states that "prior to the measures Crompton's lindane products represented a small share of its overall business" (LECG Report, para. 57). This assertion is further elaborated in a footnote, stating that "[p]rior to the measures in 1999, lindane based products represented around 6.3% of Crompton's overall Canadian business measured by output (pounds) and approximately 17.6% measured by net sales" (LECG Report, para. 57, footnote 27).
261. Second, at the hearing, Mr. Thomson, at the time Formulations Manager of Chemtura Canada, testified (i) that Claimant's crop protection business was at all relevant times only 10% of the sales of the company (Tr., 3 September 2009, 321:9-14), (ii) that 80% of the crop protection business of Chemtura Canada was seed treatment (the percentage of crop protection business relative to the overall business of Chemtura Canada was not specified by the witness) (Tr., 3 September 2009, 322:22-25, 323:1-2), and (iii) that sales from lindane products were no more than 5% of the overall sales from the crop protection business (itself a subset of the overall sales) of Chemtura Canada (Tr., 3 September 2009, 324:24-25, 325:1-9).

262. These indications are confirmed by the second report of the Respondent's quantum expert, where it is stated that: "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 [...]. Chemtura Canada's financial statements reveal that net sales of lindane-based products represented approximately 10 percent of Crompton Canada's sales" (Second Navigant Report, para. 128).
263. The Tribunal gathers from this evidence that the sales from lindane products were a relatively small part of the overall sales of Chemtura Canada at all relevant times. Under these circumstances, the interference of the Respondent with the Claimant's investment can not be deemed "substantial".
264. This conclusion is also supported by the fact that Chemtura Canada remained operational and its yearly sales, although reduced in 2002, continued an ascending trend between 2003 and 2007 reaching levels comparable to those of 1997 to 1999 (Exh. NCI-3). Finally, there is no allegation that the Respondent interfered with Chemtura Canada's management, daily operations, or the payment of dividends. in other words, the Claimant remained at all relevant times in control of its investment.
265. In summary, the evidence shows that the measures did not amount to a substantial deprivation of the Claimant's investment.
266. Irrespective of the existence of a contractual deprivation, the Tribunal considers in any event that the measures challenged by the Claimant constituted a valid exercise of the Respondent's police powers. As discussed in detail in connection with Article 1105 of NAFTA, the PMRA took measures within its mandate, in a non-discriminatory manner, motivated by the increasing awareness of the dangers presented by lindane for human health and the environment. A measure adopted under such circumstances is a valid exercise of the State's police powers and, as a result, does not constitute an expropriation.²¹
267. Consequently, the Tribunal comes to the conclusion that the Respondent did not breach Article 1110 of NAFTA.

²¹ Cf. in a different context *Saluka Investments B.V. v Czech Republic*, UNCITRAL Rules, Partial Award of 17 March 2006, para. 262.

E. COSTS

268. Each Party has advanced costs in the amount of USD 410'000²², which gives a total advance of USD 820'000. The Claimant has filed a statement of legal and other costs in the amount of USD 1'294'640 while the Respondent's fees and expenses incurred in connection with this arbitration amounted to CAD 5'778'467.60. Considering the stakes involved in this case, these amounts appear reasonable.
269. The members of the Tribunal have spent time on this matter, as follows: The Honorable Charles Brower 30 days; Prof. James Crawford 25.5 days; and Prof. Gabrielle Kaufmann-Kohler 66.5 days. The Secretary of the Tribunal has spent 356 hours. The rates for time spent by the Tribunal and Secretary on this case were set in section C of PO 1 (USD 4'000 per day or 8 hours of work for the Arbitrators and USD 280 per hour for the Secretary). Accordingly, the total fees accrued for the Tribunal and the Secretary amount to USD 587'680.
270. The PCA's fees amount to USD 2'286 and the Tribunal's expenses to USD 98'253 (including in particular costs for the various hearings and deliberations).
271. Adding up expenses, PCA and Arbitrators' fees, the total costs of the arbitration amount to USD 688'219, with an unused remainder of the advance of USD 131'781
272. The Respondent has prevailed in the present proceedings. In the exercise of its discretion under Article 38 of the UNCITRAL Arbitration Rules in matters of allocation of costs, the Tribunal finds it fair that the Claimant bear the entire costs of the arbitration, i.e. USD 688'219. Since the Parties have advanced USD 820'000 in equal shares, the PCA will refund the totality of the remainder of USD 131'781 to the Respondent, out of which USD 65'890.50 will be credited towards the Claimant's remaining payment obligation on account of arbitration costs, which thus amounts to USD 278'219, i.e. $688'219 : 2 = 344'109.50$ minus 65'890.50.
273. The Tribunal finds it further appropriate and just that the Claimant bear one half of the fees and costs expended by the Respondent in connection with this arbitration, i.e. CAD 2'889'233.80.

²² Canada's Submission on Costs states this amount in CAD 477'602.07.

V. DECISION

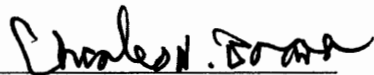
For the reasons set forth above, the Tribunal issues the following Award:

- a. The Tribunal has jurisdiction to hear the claims brought in the present proceedings;
- b. The Respondent has not breached Article 1105 of NAFTA;
- c. The Respondent has not breached Article 1103 of NAFTA;
- d. The Respondent has not breached Article 1110 of NAFTA;
- e. The Claimant shall bear the costs of the arbitration, which are fixed at USD 688'219. Consequently, the PCA shall pay the unused advance of USD 131'781 to the Respondent and the Claimant shall pay USD 278'219 to the Respondent within 30 days of notification of this award;
- f. The Claimant shall bear 50% of the Respondent's fees and costs incurred in connection with this arbitration and shall thus pay CAD 2'889'233.80 to the Respondent within 30 days of notification of this award;
- g. All other claims are dismissed.

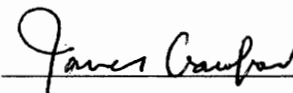
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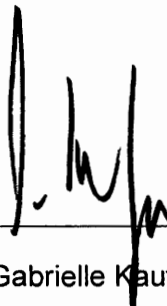
Place of the arbitration: Ottawa, Canada



The Hon. Charles N.
Brower



Prof. James R. Crawford



Prof. Gabrielle Kaufmann-Kohler