

WORLD TRADE ORGANIZATION

*Panel established pursuant to Article 6 of the
Understanding on Rules and Procedures Governing the Settlement of Disputes*

**AUSTRALIA – MEASURES AFFECTING THE
IMPORTATION OF APPLES FROM NEW ZEALAND
(DS367)**

**Australia's comments on New Zealand's replies to questions
following the second substantive meeting**

Geneva, 31 July 2009

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I. INTRODUCTION AND GENERAL COMMENTS

1. Australia will make some introductory comments before addressing New Zealand's responses to questions from the Panel and Australia.
2. Australia has referred to the real world in which risk assessments are undertaken, where scientific data are rarely comprehensive and risk assessors must use their expert judgment to interpret the scientific data that are available. Australia has not exaggerated the challenges of conducting risk assessments in these circumstances. This is the real world of plant risk assessments as described by Dr Schrader.
3. These challenges are not just faced by Australia but by all other WTO Members, including New Zealand.
4. However, New Zealand has been reluctant to acknowledge those challenges in presenting its case. The challenges are inconvenient for New Zealand because it argues for unachievable standards in the conduct of risk assessments that have no basis in the *SPS Agreement* or relevant IPPC standards, which are documents grounded in the real world.
5. Contrary to the approach taken by New Zealand, Biosecurity New Zealand does acknowledge the challenges in its *Risk Analysis Procedures* when it states that there is a "need to achieve a balance between acquiring perfect knowledge and obtaining reasonable estimates upon which we can base our predictions with a reasonable level of confidence."¹
6. Australia also notes that New Zealand does not meet the standards to which it argues Australia (and other WTO Members) should be held.
7. For example, New Zealand has attempted to impugn the Final IRA Report for a purported lack of transparency. The lack of the type of transparency standards which New Zealand has tried to impose on Australia (and other WTO Members) is illustrated by New Zealand's own choice not to make the majority of its risk assessments publicly available.

¹ Biosecurity New Zealand, *Risk Analysis Procedures*, p. 28. <<http://www.biosecurity.govt.nz/files/pests/surv-mgmt/surv/review/risk-analysis-procedures.pdf>> (last consulted 30 July 2009)

8. New Zealand has, in its replies, also continued its argument that only pathways which are historically confirmed and experimentally proven by direct experimental evidence under orchard conditions can be examined in the context of a risk assessment.² Australia has already demonstrated that this proposition finds no support in the text of the *SPS Agreement* or relevant international standards. It is clear from New Zealand's reply to a question from Australia that New Zealand reserves to itself the right to impose risk management measures on the basis of a risk assessment, including where the pathway identified is hypothetical, or historically non-demonstrated.³ Australia has cited the example of New Zealand imposing SPS measures to protect against the entry of certain pathogens on papaya and lychees, despite trade in these fruit not being a historically proven pathway.⁴ Again, New Zealand is seeking to impose on Australia (and other WTO Members) a standard for risk assessments that is divorced from the real world of risk assessment.

9. In addition, New Zealand, unlike Australia, has not stated its ALOP. New Zealand explains its position in the following terms:

New Zealand, like many other countries, has not attempted to quantify what its appropriate level of protection (acceptable level of risk is) in precise terms. New Zealand's appropriate level of protection can be inferred over time from the total picture of decisions that have been made on SPS measures.⁵

New Zealand's failure to specify its ALOP must make it difficult for another WTO Member to challenge its SPS measures. Not only would that Member have to address the risk assessment upon which the SPS measures are based, but it would also have to review in detail other risk assessments completed by New Zealand to establish its ALOP. This would be a much more difficult task than New Zealand has faced in bringing its case against Australia.

10. Australia has not commented on all of New Zealand's claims in its responses to the Panel's questions. On many issues, Australia notes that New Zealand has not raised anything new and Australia has previously commented on such matters. Accordingly, to the extent that these have already been addressed at length by the Parties, Australia relies on its previous submissions. Australia will only address below those points raised by New Zealand which are

² New Zealand's responses to the Panel's questions after the second meeting, para 191.

³ New Zealand's responses to Australia's questions after the second meeting, para. 6

⁴ See: Australia's opening statement at the second meeting, para. 15.

⁵ Replies provided by New Zealand (first session), Trade Policy Review of New Zealand, WT/TPR/M/216/Add.1, 28 July 2009, Q25-3.

new or are new elaborations and confines its comments to points of importance to the arguments and evidence relevant to this dispute.

II. LEGAL ISSUES

1. New Zealand has failed to appreciate the interlinked nature of the key legal issues

11. Australia has addressed a range of legal assertions by New Zealand in an integrated fashion below to demonstrate the consequences of certain positions taken by New Zealand and the various inconsistencies between those positions.

(a) New Zealand has not provided the option for any middle ground to be taken in this dispute

12. New Zealand has taken an “all or nothing” approach in this dispute. In respect of fire blight and European canker, it has argued that restricting imports to “mature, symptomless apples” is the *only* measure which is justifiable. According to New Zealand, such a measure would replace *all* of Australia’s current measures for fire blight and European canker.⁶ Clearly, there is a wide gulf between requiring *no measures* beyond ensuring that apples exported are both mature and symptomless,⁷ and requiring apples to be sourced from low-risk orchards (as verified by inspections) and chemically treated. Australia does not dispute that the difference in “trade-restrictiveness” between these two scenario extremes is considerable, but likewise, the difference in risk reduction is also considerable. Similarly, Australia recalls that New Zealand’s position is that *no measures* are warranted for ALCM, but that it would nonetheless accept a 600-unit inspection.⁸

13. The potential success of New Zealand’s arguments in this regard depends on it demonstrating that the relevant risk assessments are not objectively justifiable. As Australia has pointed out, a restriction to “mature, symptomless apples” and a 600-unit inspection would not

⁶ New Zealand’s first written submission, paras. 4.490, 4.491.

⁷ That imported apples be mature and symptomless is already implicitly required by commercial considerations. See: Australia’s first written submission, para. 1084; Australia’s responses to the Panel’s questions after the first meeting, q. 138.

⁸ New Zealand’s first written submission, paras. 4.513, 4.517-4.518.

reduce the relevant risks from “low” to “very low”,⁹ and New Zealand has not disputed this point. Accordingly, in the context of this dispute *and New Zealand’s arguments*, New Zealand can only demonstrate serious flaws which would prevent the Panel from having reasonable confidence in the risk assessments at issue in one way. That is, New Zealand must persuade the Panel that the IRA Team’s unrestricted risk estimates were inflated to such an extent that having effectively *no substantive risk reduction measures* could be sufficient to achieve Australia’s ALOP.

14. New Zealand’s apparent insistence that the Panel should make findings against each of the measures at issue separately,¹⁰ including its argument that the Panel must examine whether each measure individually is technically justified,¹¹ disregards the core issues in dispute. It argues that *none* of the measures at issue (whether principal or ancillary) are scientifically justified on the basis of its view *that the IRA Team inflated the unrestricted risk for each of the three pests and therefore no measures besides “mature, symptomless apples” and a 600-unit inspection are required*. New Zealand has not differentiated between Australia’s particular measures in this regard¹² and it has not provided the option for any middle ground. While New Zealand could have pursued an argument whereby the Panel could find that only some of the fire blight measures were consistent, it has not done so. For New Zealand, it is *all or nothing* for each pest.

(b) New Zealand challenges the relationship between the scientific evidence and the conclusions in the Final IRA Report, rather than the relationship of those conclusions with the measures at issue

15. Australia considers that the basis of New Zealand’s objection to *all* of the measures is that the IRA Team inflated the unrestricted risk. This is illustrated by New Zealand’s failure to challenge the “based on” element under Article 5.1.¹³

⁹ See, for example: Australia’s rebuttal submission, paras. 450-451, 611, 708.

¹⁰ New Zealand’s responses to Australia’s questions after the second meeting, para. 5.

¹¹ New Zealand’s responses to the Panel’s questions after the second meeting, para. 46.

¹² See, for example: New Zealand’s responses to the Panel’s questions after the second meeting, para. 122.

¹³ See: New Zealand’s first written submission, paras. 4.378 & 4.403-4.404; New Zealand’s responses to the Panel’s questions after the first meeting, q. 117, para. 257.

Australia recalls that the Appellate Body has explained the “based on” requirement as follows:

16. For example, if the Panel was to find that the fire blight risk assessment is valid, then there would be no need for it to then examine each of the fire blight measures individually to ask whether they are “based on” the risk assessment. Either all of the fire blight measures are based on a valid risk assessment, or none of them are. Furthermore, there clearly *is* a rational relationship between the Final IRA Report and the measures at issue, given that it was the Final IRA Report that recommended each of them.¹⁴ These same considerations apply for European canker and ALCM.

17. New Zealand’s recent denial that it has conceded the “based on” element of Article 5.1¹⁵ is contradicted by its substantive arguments in this dispute. All of New Zealand’s arguments (under both Articles 2.2 and 5.1) have been directed at arguing that the scientific evidence, “correctly” interpreted, should have yielded a different conclusion – that is, that the unrestricted risk is lower than that concluded by the IRA Team. If New Zealand was also pursuing the “based on” element¹⁶ – that is, challenging whether there is a rational relationship between the risk assessment (or scientific evidence) and the measures – then it should also have argued that even if the risk assessments were found valid, there was an inadequate relationship between the results of those risk assessments and the measures selected by Australia.

18. Australia considers that such a scenario may occur where a risk assessment has recommended a particular measure to address a risk (eg. a 600-unit inspection for every consignment), but the Member concerned has chosen to ignore that recommendation and adopt an unrelated measure with a tenuous relationship to the results of the risk assessment (eg. a total import ban on the product).

19. However, New Zealand has not claimed that there is not a rational relationship between the results of the risk assessments and the measures. Its argument is that there is not a rational

We believe that “based on” is appropriately taken to refer to a certain *objective relationship* between two elements, that is to say, to an *objective situation* that persists and is observable between an SPS measure and a risk assessment.

(Appellate Body Report, *EC – Hormones*, para. 189.)

¹⁴ Notwithstanding New Zealand’s argument that the IRA Team did not properly evaluate all of the measures recommended.

¹⁵ See: New Zealand’s responses to the Panel’s questions after the second meeting, paras. 43, 187; New Zealand’s opening statement at the second meeting, para. 39.

¹⁶ Australia recalls that Article 5.1 requires analysis of the following two questions by a panel: “First, was a risk assessment, appropriate to the circumstances and taking into account risk assessment techniques developed by the relevant international organizations conducted? Second, is the sanitary measure based on that risk assessment?” (Panel Report, *Canada – Continued Suspension*, para. 7.430.)

relationship between the *scientific evidence* and the *results of the risk assessments*. New Zealand's position is the same under both Articles 2.2 and 5.1 in this regard. Under Article 2.2, its argument that there is no "rational or objective" relationship between the measures at issue and the scientific evidence relates again to whether the IRA Team's consideration of the scientific evidence should have led it to conclude that the unrestricted risk was above Australia's ALOP, rather than whether the IRA Team should have concluded that the particular measures at issue were required given its conclusion on the unrestricted risk.

(c) New Zealand has not established any material difference in the matters for the Panel to decide under Articles 2.2 and 5.1

20. New Zealand still maintains that the Panel should address its claims under both Articles 2.2 and 5.1 separately.¹⁷ Effectively, this means that the Panel should address New Zealand's scientific claims against Australia's measures twice (as well as evaluating each of the measures under each provision *twice*, both "individually and as a whole"¹⁸). New Zealand's reason for seeking this is apparently because it "has not made separate arguments in relation to the 'based on' element of Article 5.1", whereas New Zealand claims that it *has* challenged the relationship between the scientific evidence and the measures at issue under Article 2.2.¹⁹ As Australia has explained above, there is no substantive difference between New Zealand's arguments as regards the relationship between the measures and the scientific evidence / risk assessment.

21. New Zealand's continued position that there is a distinction between the analysis to be undertaken under Article 2.2 and Article 5.1 in this case is untenable. New Zealand asserts:

[U]nder Article 2.2 ... measures [must] be sufficiently supported by (or rationally and objectively related to) the scientific evidence (to be distinguished from the requirement for a rational relationship between the measure *and the risk assessment* under Article 5.1).²⁰

¹⁷ See: New Zealand's responses to the Panel's questions after the second meeting, para. 14.

¹⁸ See: Australia's Question 2 to New Zealand after the second meeting; New Zealand's responses to Australia's questions after the second meeting, paras. 3-5.

¹⁹ New Zealand's responses to the Panel's questions after the second meeting, para. 188; New Zealand's opening statement at the second meeting, para. 39.

²⁰ New Zealand's responses to the Panel's questions after the second meeting, para. 44. (original emphasis)

However, New Zealand further states:

It is important to distinguish between two different concepts of “sufficiency” in the *SPS Agreement*. The first is the sufficiency of scientific evidence to support SPS measures and conclusions in a risk assessment. The second is the sufficiency of scientific evidence to perform a risk assessment.²¹

22. To the extent that New Zealand suggests that the scientific evidence must be both sufficient to allow a risk assessor to “perform a risk assessment”, and that it must be sufficient to support “SPS measures and conclusions in a risk assessment”, Australia agrees. This is consistent with Australia’s position that the “body of scientific evidence” must allow a risk assessor “to arrive at a *sufficiently objective* conclusion in relation to risk” and must be “sufficient to *demonstrate the existence of the risk* which the measure is supposed to address”.²²

23. However, despite New Zealand’s repeated assertions that it has made a separate and distinct claim under Article 2.2, and that a separate finding under Article 2.2 is essential to achieving a positive solution in this dispute,²³ there is no mention of Article 2.2 in its elaboration of “sufficiency” above. Indeed, New Zealand refers only to how “sufficiency” should be determined *in the context of a risk assessment*.²⁴ This is highly significant. The term “sufficiency” does not appear in Article 5.1. Accordingly, it cannot be applied in Article 5.1 unless Article 2.2 and Article 5.1 are read together such that the general requirement of “sufficient scientific evidence” in Article 2.2 is translated into a specific requirement under Article 5.1 that, in New Zealand’s own words, examines “the sufficiency of scientific evidence to support SPS measures and conclusions in a risk assessment”.²⁵

24. New Zealand cannot have it both ways. If it wishes the Panel to apply an interpretation of Article 5.1 which tests the conclusions in the Final IRA Report according to whether “the particular conclusions drawn by the member assessing the risk find sufficient support in the scientific evidence relied upon”,²⁶ then it cannot assert that “sufficiency” must also be separately tested again under Article 2.2 without showing what, in substance, would be different under that analysis. New Zealand failed to identify any “additional substantive scientific matters [that]

²¹ New Zealand’s responses to the Panel’s questions after the second meeting, para. 52. (emphasis added)

²² Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, para. 149.

²³ New Zealand’s responses to the Panel’s questions after the second meeting, para. 14.

²⁴ See: New Zealand’s responses to the Panel’s questions after the second meeting, para. 52.

²⁵ New Zealand’s responses to the Panel’s questions after the second meeting, para. 52.

²⁶ New Zealand’s responses to the Panel’s questions after the second meeting, para. 51, citing Appellate Body Reports, *US/Canada - Continued Suspension*, para. 591.

should be tested under Article 2.2 in this case that would not already be tested under Article 5.1”, in response to Australia’s question.²⁷ Rather, New Zealand now claims that “a different focus” is required under Articles 2.2 and 5.1,²⁸ but has not identified the material relevance of any such difference for the purposes of this dispute.

25. In this regard, New Zealand has acknowledged that the Panel may not conduct a *de novo* review under Article 2.2, as is the case under Article 5.1. It has also belatedly recognised that it is the conclusions of the Final IRA Report which need to be tested under Article 2.2 (as well as Article 5.1). Based on these positions, Australia does not consider that there is any difference between the Panel’s respective tasks under Article 2.2 and Article 5.1 in this dispute. The Appellate Body has explained that “a panel should review whether the particular conclusions drawn by the Member assessing the risk find sufficient support in the scientific evidence relied upon”²⁹ *in the context of Article 5.1*. It is clear that the sufficiency of the scientific evidence (which justifies particular conclusions leading to the adoption of SPS measures) is required to be examined under *both provisions*; it would not be correct to suggest that Article 5.1 places less weight on this aspect than Article 2.2. That there should be no substantive difference in the matters to be examined under both provisions is entirely appropriate given that Article 5.1 is “viewed as a specific application of the basic obligations contained in Article 2.2”.³⁰

26. New Zealand now appears to contemplate that it would be possible for the Panel to come to two different conclusions as regards the measures for a specific pest under Article 2.2 and Article 5.1.³¹ Australia considers such a proposition to be incongruous, given that there is no substantive difference in New Zealand’s case or the matters required for consideration by the

²⁷ See: New Zealand’s responses to Australia’s questions after the second meeting, q. 1, paras. 1-2.

²⁸ New Zealand’s responses to Australia’s questions after the second meeting, para. 2.

²⁹ Appellate Body Reports, *US/Canada – Continued Suspension*, para. 591. (emphasis added)

³⁰ Appellate Body Report, *EC – Hormones*, para. 180.

³¹ New Zealand asserts:

The absence of arguments under the “based on” element of Article 5.1 is not a concession that there is a rational or objective relationship between the science and the measures. Indeed, this is the key issue under Article 2.2. In that context New Zealand is challenging the existence of such a relationship, even in the event that the IRA is valid. Therefore, even if the Panel were to conclude that there is a valid risk assessment, a finding of inconsistency with Article 2.2 may still imply a finding of inconsistency with Article 5.1. By the same token, Australia is incorrect to suggest that a finding of consistency with Article 5.1 can imply a finding of consistency with Article 2.2. In the absence of arguments under the “based on” element, such an implication simply cannot be made.

(New Zealand’s responses to the Panel’s questions after the second meeting, para. 188; footnote omitted; emphasis added)

Panel under these two provisions. And doing so would clearly not help to “secure a positive solution” to this dispute.³² While there may well be circumstances in which it would be possible for a panel to come to different conclusions under Articles 2.2 and 5.1 against the same SPS measures (although Australia notes that this has not happened in any SPS case to date), Australia submits that such circumstances do not arise in the present case. This is because effectively New Zealand’s sole claim is that the conclusions of the Final IRA Report are not sufficiently supported by scientific evidence and on that basis, Australia’s measures are not warranted.

27. Australia finds New Zealand’s recent claim³³ that it would be legitimate for the Panel to find against Australia’s measures under both Articles 2.2 and 5.1 *even if it found that the Final IRA Report was a valid risk assessment* to be impossible to reconcile with these provisions of the *SPS Agreement* as explained by the Appellate Body.

28. Australia considers that it would now be an opportune time to recall the arguments made in its first written submission about the relationship between Articles 2.2 and 5.1:

The Appellate Body has explained that “sufficiency” requires “the existence of a sufficient or adequate relationship between two elements, *in casu*, between the SPS measure and the scientific evidence.” “Sufficiency” is a “relational concept” and must be determined on a “case-by-case” basis. In Australia’s view, this necessarily implies that the scope and content of “sufficiency” is to be derived from other more specific and detailed provisions in the *SPS Agreement* and the specific facts of each case. That is, its scope and content is *context-driven*.

The Appellate Body has confirmed that “[t]he context of the word ‘sufficient’ or, more generally, the phrase ‘maintained without sufficient scientific evidence’ in Article 2.2, includes Article 5.1 as well as Articles 3.3 and 5.7 of the *SPS Agreement*.” Therefore each of these provisions provides a relevant context for understanding what is meant by the term “sufficient”.

Australia does not seek to justify its SPS measures under Article 5.7 or Article 3. Australia has based its measures on a scientific risk assessment: the Final IRA Report. Since Article 5.1 is the key discipline for Members seeking to base their SPS measures on risk assessments, Australia submits that, in this dispute, “sufficiency” under Article 2.2 falls to be determined within the context of Article 5.1.³⁴

³² Article 3.7 of the DSU states, “The aim of the dispute settlement mechanism is to secure a positive solution to a dispute.”

³³ See: New Zealand’s responses to the Panel’s questions after the second meeting, paras. 187, 188.

³⁴ Australia’s first written submission, paras. 222-224. (footnotes omitted)

29. Accordingly, Australia considers that New Zealand’s alleged distinction between Article 2.2 and Article 5.1 for the purposes of this case to be wholly unconvincing.

2. A flaw should not be considered “serious” unless it undermines the objective justifiability of the overall risk assessment

30. New Zealand now claims that it rejects the “serious flaws” standard advocated by Australia.³⁵ However, in doing so, the salient point is that New Zealand has not attempted to identify any alternative method for the Panel to judge whether New Zealand’s burden of proof has been satisfied. Clearly, a risk assessment must be objectively justifiable, but New Zealand has not answered the question of how a panel should judge whether a complainant has established that the views expressed in a risk assessment are not “considered to be legitimate science according to the standards of the relevant scientific community.” Obviously, it is not enough for New Zealand merely to present its own different account as the more “correct” view.³⁶ Indeed, New Zealand’s approach appears to imply that it does not even have a burden of proof. Moreover, at various points, it appears to seek to reverse the burden of proof by asserting that Australia must demonstrate the sufficiency of scientific evidence relied upon. In these circumstances, Australia submits that the Panel should accept its submissions on burden of proof, as it relates to standard of review, which find support in the approach of the panel in *Australia – Salmon (Article 21.5 – Canada)*.³⁷

31. New Zealand’s criticism of the “serious flaws” standard appears to stem from its perception that “Australia’s suggested approach ... appears to leave no room for consideration of the cumulative effect of the numerous flaws identified by New Zealand.”³⁸ Australia clarified its position in this regard in response to the Panel’s questions after the second meeting,³⁹ and therefore New Zealand’s concern should not be a barrier to acceptance of Australia’s submission.

³⁵ New Zealand’s responses to the Panel’s questions after the second meeting, para. 6.

³⁶ See: Appellate Body Reports, *US/Canada – Continued Suspension*, para. 590.

³⁷ See: Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 6-20.

³⁸ New Zealand’s responses to the Panel’s questions after the second meeting, para. 6.

³⁹ See: Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 22-23.

32. Australia explained that the requirement for serious flaws is linked with the requirement that a risk assessment should be sufficiently supported by scientific evidence – that is, objectively justifiable, *overall*.⁴⁰ New Zealand does not appear to accept this and argues:

Australia’s argument is confusing two separate issues. In the section of the *Japan – Apples* report quoted by Australia, the Appellate Body was addressing the meaning of “insufficient” “within the meaning of Article 5.7”. It was not addressing the separate issue of the meaning of sufficiency under Article 2.2 and Article 5.1.⁴¹

Australia notes that the part of Australia’s submission to which New Zealand refers concerned Australia’s rebuttal of New Zealand’s claim that scientific uncertainty should necessarily have been addressed under Article 5.7,⁴² a point that New Zealand now concedes is incorrect.⁴³ As indicated above, Australia’s position⁴⁴ is consistent with New Zealand’s to the extent that it considers that “sufficiency” under Articles 5.1 and 2.2 means that the scientific evidence must “demonstrate the existence of a risk which the measures are supposed to address.”⁴⁵ Australia disagrees that this means that sufficiency of scientific evidence is to be judged at each and every intermediate step in a risk assessment.

33. New Zealand argues:

It is beyond question that particular conclusions in the IRA must be supported by sufficient scientific evidence. The Appellate Body in *Canada – Continued Suspension* confirmed that “a panel should review whether the particular conclusions drawn by the Member assessing the risk find sufficient support in the scientific evidence relied upon.”⁴⁶

Australia agrees that the Panel can and should review particular conclusions in a risk assessment. Directing a panel to review conclusions in a risk assessment does not necessarily mean, as New Zealand suggests,⁴⁷ that any flaws in an intermediate conclusion will necessarily amount to a *breach* of the legal obligation. There is nothing in the Appellate Body’s statement quoted by New Zealand that indicates that the Appellate Body was referring to *intermediate* conclusions

⁴⁰ Australia’s responses to the Panel’s questions after the second meeting, qs. 2, 3 & 4.

⁴¹ New Zealand’s responses to the Panel’s questions after the second meeting, para. 82. (footnotes omitted)

⁴² See: Australia’s rebuttal submission, paras. 112-115.

⁴³ New Zealand’s responses to the Panel’s questions after the second meeting, para. 55.

⁴⁴ See: Australia’s first written submission, para. 234.

⁴⁵ Australia’s first written submission, para. 234, citing Panel Report, *Japan – Apples (Article 21.5)*, para. 8.45.

⁴⁶ New Zealand’s responses to the Panel’s questions after the second meeting, para. 83. (footnote omitted)

⁴⁷ New Zealand’s responses to the Panel’s questions after the second meeting, para. 85.

taken throughout a risk analysis, rather than only referring to the *final* conclusions of a risk assessment (ie. the overall conclusion on risk).

34. Australia does not consider that the Appellate Body was implying that a risk assessment could be impugned for minor flaws alone. If a particular step in the pathway is not supported by scientific evidence but is not significant in the risk analysis or has no real impact on the overall conclusion on risk, then Australia does not consider that this would constitute a sufficient reason for overturning the risk assessment. This is why Australia emphasises, consistently with the panel’s reasoning in *Australia – Salmon (Article 21.5 – Canada)*, that the complainant must establish *serious* flaws in the risk assessment – that is, flaws which appear to make a material difference to the level of assessed risk.

35. Australia further recalls that Articles 5.1 and 2.2 require a “rational”, “adequate” or “reasonable” relationship, and not absolute conformity, between the scientific evidence, risk assessment and measures.⁴⁸ Australia also notes that the “result[s] and conclusion[s] of the risk assessment [need not be] free from uncertainties”.⁴⁹ As New Zealand itself acknowledges,⁵⁰ ISPM No. 2 identifies missing or incomplete data as sources of scientific uncertainty. This supports Australia’s view that the actual legal obligations in Articles 5.1 and 2.2 are met if a risk assessment *as a whole* finds sufficient support in the scientific evidence.

36. Accordingly, while the Panel should review whether scientific evidence supports the conclusions of the Final IRA Report, it should be mindful that there is no *obligation* for the sufficiency of scientific evidence to be established in respect of each and every intermediate conclusion of a risk assessment, as New Zealand suggests.⁵¹ Measures are only inconsistent with Articles 5.1 and 2.2 if the scientific evidence underpinning a risk assessment fails to sufficiently “demonstrate the existence of the *risk* which the measure is supposed to address”.⁵² As Australia noted in its first written submission, risk is a holistic concept which can only be demonstrated, in this case, by evaluation of the risk assessment as a whole.⁵³

⁴⁸ See: Appellate Body Report, *Japan – Agricultural Products II*, paras. 73; Appellate Body Report, *EC – Hormones*, paras. 194-195.

⁴⁹ Panel Report, *EC – Biotech Products*, para. 7.1525.

⁵⁰ See: New Zealand’s responses to the Panel’s questions after the second meeting, para. 59.

⁵¹ New Zealand’s responses to the Panel’s questions after the second meeting, para. 85.

⁵² Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, para. 149 citing Panel Report, *Japan – Apples (Article 21.5)*, para. 8.45.

⁵³ See: Australia’s first written submission, para. 234-235.

3. New Zealand's allegations that the Final IRA Report was insufficiently transparent are baseless

37. In its replies to the Panel's questions, Australia set out what it considers as the relevant international standards governing transparency in risk assessments.⁵⁴ Australia noted the practice of other risk assessors.⁵⁵ The Final IRA Report exceeds by a large margin the relevant international standards required and the practice of other countries in respect of transparency.

38. In its replies to the Panel's questions, New Zealand claims that there are obligations relating to transparency in risk assessments and suggests in a range of areas that the Final IRA Report is insufficiently transparent. For example, New Zealand argues that there was a lack of transparency in relation to the use of expert judgement;⁵⁶ that the Final IRA Report did not present overall calculations for different scenarios;⁵⁷ that it is impossible to calculate the impact of including certain factors in the assessment model used in the Final IRA Report because its estimates of partial probabilities are not transparent;⁵⁸ and that the relationship between different procedures is not clear.⁵⁹

39. Australia considers that the Final IRA Report does in this case constitute the scientific basis for its measures but does not accept New Zealand's attempts to confine Australia's defence of its measures to information set out in the Final IRA Report. In its replies to the Panel's questions, New Zealand suggests that the Panel's focus "must" be on the information contained in the Final IRA Report itself, as opposed to publicly available documents and oral explanations referred to during the dispute.⁶⁰ Moreover, New Zealand claims, "it should be apparent from the IRA itself how conclusions find sufficient support in the scientific evidence".⁶¹ New Zealand cites no specific authority for these propositions, and they have no legal basis. If New Zealand's

⁵⁴ Australia's responses to the Panel's questions after the second meeting, paras 202-208.

⁵⁵ Australia's responses to the Panel's questions after the second meeting, paras 202-208

⁵⁶ New Zealand's responses to the Panel's questions after the second meeting, para. 65.

⁵⁷ New Zealand's responses to the Panel's questions after the second meeting, para. 107.

⁵⁸ New Zealand's responses to the Panel's questions after the second meeting, para. 154.

⁵⁹ New Zealand's second written submission, para. 2.729, quoted in Question 105 of the Panel's questions to the Parties after the second meeting.

⁶⁰ New Zealand's responses to the Panel's questions after the second meeting, para. 72

⁶¹ New Zealand's responses to the Panel's questions after the second meeting, para. 98

propositions in this area were accepted, they would constitute *de facto* requirements for transparency in risk assessments.

40. New Zealand's sole authority for the proposition that risk assessments must be transparent is the Appellate Body's decision in *US/Canada Continued Suspension*. New Zealand referred to the Appellate Body's indication in that case that a panel needs to determine whether a risk assessment is "objectively justifiable".⁶² As a preliminary point, that area of the Appellate Body's report relied upon by New Zealand was not concerned with setting out what it considered to be the requirements relating to the contents or conduct of risk assessments. The Appellate Body was in fact emphasising the point that a panel's mandate in reviewing a risk assessment was limited: that this function was *not* to determine whether a risk assessment was "correct".

41. The Appellate Body indicated that a panel reviewing a risk assessment must verify that the risk assessment has "the necessary scientific and methodological rigour to be considered reputable science", and that the panel "should review whether the particular conclusions drawn by the Member assessing the risk find sufficient support in the scientific evidence relied upon".⁶³ Australia acknowledges that a panel reviewing a risk assessment needs to have access to sufficient information to complete these functions identified by the Appellate Body. However, Australia does not accept that this entails an obligation on a WTO Member undertaking a risk assessment to ensure a particular level of transparency *on the face of the risk assessment itself*. There is no reason in principle that a Member could not, in defending a risk assessment, have recourse to a range of materials, including the mathematical model, that may explain how the particular conclusions in a risk assessment were reached. A Member may have general guidelines about conducting risk assessments, for example, that would be relevant to a consideration of the scientific or methodological rigour in a specific risk assessment. A Member may also provide oral explanations in the course of a dispute about which scientific evidence was used as the basis for a particular conclusion. There is nothing in the Appellate Body's report to suggest that a panel ought to exclude this sort of information. And if a panel can consider information that does not appear in the risk assessment itself, there is on New Zealand's analysis no reason to insist that a risk assessment itself needs to explicitly include that information.

⁶² New Zealand's responses to the Panel's questions after the second meeting, para. 94.

⁶³ Appellate Body Reports, *US/Canada – Continued Suspension*, para. 591.

42. In any event, New Zealand's responses to the Panel's questions and its arguments in the dispute more generally undermine any suggestion about a lack of transparency in the Final IRA Report. New Zealand has been clearly able to make detailed submissions about the scientific and methodological rigour of the IRA, and the scientific evidence that provided the basis for particular conclusions. For example, New Zealand has identified how different inputs at various points of the model can have an effect on the number of apples relevant to given pathways.⁶⁴ It has referred to explicit numerical assumptions used in the Final IRA Report.⁶⁵ It has made submissions based on calculations it has made (and which Australia has agreed with) about the median overall probability of entry, establishment and spread of fire blight.⁶⁶ It has also argued that the scientific evidence is not sufficient to support the IRA Team's use of probability intervals,⁶⁷ or the assumptions used by the IRA Team in relation to ALCM infestation rates.⁶⁸

43. Against this background, it is clear that the Panel is in a position to undertake a review of Australia's risk assessment in the manner indicated by the Appellate Body and endorsed by New Zealand.

44. New Zealand's specific allegations of a lack of transparency include:

... New Zealand recalls that one of the problems with the IRA is the combination of a heavy reliance on "expert judgement", and the absence of a transparent and structured process for eliciting and combining that "expert judgement"⁶⁹

45. In its responses to the Panel's questions, Australia set out in detail the relevant international standards applying to transparency in the use of expert judgement. As Australia noted, the Final IRA Report exceeds international standards on transparency in the use of expert judgement. It also sets out how the IRA Team dealt with expert judgment as clearly as a risk assessment by the European and Mediterranean Plant Protection Organization, of which Dr Schrader was a co-author.⁷⁰

⁶⁴ New Zealand's responses to the Panel's questions after the second meeting, para.106. See, also: New Zealand's responses to the Panel's questions after the second meeting, paras. 130–132.

⁶⁵ New Zealand's responses to the Panel's questions after the second meeting, para. 102.

⁶⁶ New Zealand's responses to the Panel's questions after the second meeting, para. 123

⁶⁷ New Zealand's responses to the Panel's questions after the second meeting, para. 62

⁶⁸ New Zealand's responses to the Australia's questions after the second meeting, para. 34

⁶⁹ New Zealand's responses to the Panel's questions after the second meeting, para. 62.

⁷⁰ Australia's responses to the Panel's questions after the second meeting, paras. 69, 271 - 279.

46. New Zealand's allegations of a lack of transparency also include that:

... it is impossible to accurately calculate the impact of including viability in the IRA's risk assessment model for ALCM (because the IRA's estimates of the partial probabilities of entry, establishment and spread for ALCM are not transparent ...⁷¹

Australia would note that there is no requirement that a risk assessment provide sufficient detail so that the relevant exporting Member may use it to undertake its own risk assessment for the purpose of dispute settlement proceedings.

47. New Zealand has also alleged:

... the IRA is unclear on the relationship between pre-clearance and the procedures to be applied to New Zealand apple fruit.⁷²

In Australia's view, the detailed operating procedures that would be developed by the Parties in preparation for trade are relevant to the relationship between different procedures, and it would be wrong to consider the Final IRA Report should contain complete information on this question.

48. More broadly, New Zealand's claims need to be seen in the light of the fact that it has apparently not read, or is not prepared to acknowledge, the contents of the Final IRA Report as a whole. For example, in its response a question from the Panel, New Zealand claims:

Indeed, the IRA does not distinguish between different apple and pear cultivars. For example, under the heading "Varietal Susceptibility", the IRA simply asserts, without any further explanation, that "[a]ll commercial varieties of apple grown in New Zealand are susceptible to infection by *E. amylovora*." Likewise, there is no attempt to distinguish between the susceptibility of different apple and pear varieties in the section of the IRA headed "host receptivity". In the section headed "Availability of suitable hosts, alternate hosts and vectors in the PRA area", the IRA states:

Australia has a similar mix of apple varieties to New Zealand. The majority of Australian apple and pear cultivars planted are highly susceptible to *E. amylovora* (Vanneste et al., 2002). Many of the new high-density plantings of apple are on fire blight susceptible rootstocks of M.9 and M.26. Commercial apples are grown in orchards in temperate Australia. Apples are also grown in many suburban backyards.⁷³

⁷¹ New Zealand's responses to the Panel's questions after the second meeting, para. 154.

⁷² New Zealand's second written submission, para. 2.729, quoted in the Panel's questions after the second meeting, question 101.

⁷³ New Zealand's responses to the Panel's questions after the second meeting, para. 126. (footnotes omitted)

New Zealand's response is limited to the contents of Part B of the Final IRA Report. It fails to acknowledge that there is a more detailed discussion about host susceptibility to fire blight, including the susceptibility of different cultivars of apple and pear, in Part C of the Final IRA Report.⁷⁴ This provides the basis for the much briefer treatment in Part B of the Report, to which New Zealand refers.

49. Moreover, in considering New Zealand's claims about the Final IRA Report, it is important to bear in mind the reality that the Report itself – while a comprehensive risk assessment – does not constitute the entire basis for New Zealand's understanding of the basis for the challenged measures. As Australia has previously noted, Australia undertook extensive consultations with stakeholders – including New Zealand – as part of its risk assessment. Australia briefed New Zealand in detail on many aspects of the risk assessment and indeed provided it with the @RISK model in order to facilitate New Zealand's consideration. Australia also gave New Zealand numerous opportunities to provide relevant material and data. New Zealand provided a considerable amount of information to the IRA Team. In this sense, Australia's practice was consistent with ISPM No. 11, which provides:

Information gathering is an essential element of all stages of PRA. It is important at the initiation stage in order to clarify the identity of the pest(s), its/their present distribution and association with host plants, commodities, etc. Other information will be gathered as required to reach necessary decisions as the PRA continues.⁷⁵

50. Moreover, Article VIII(1) of the *International Plant Protection Convention* requires that parties to that Convention “cooperate, to the extent practicable, in providing technical and biological information necessary for pest risk analysis”. In other words, New Zealand was under an *obligation* to provide technical and biological information Australia needed to undertake its risk assessment. New Zealand's replies to the Panel's questions continue to suggest that the risk assessment must be judged in isolation from this history of the development of the Final IRA Report. In doing so, New Zealand's submissions again ignore relevant international standards and international practice, including the process undertaken in relation to this risk assessment.

⁷⁴ Final IRA Report, Part C, pp. 105-6.

⁷⁵ ISPM No. 11, para 1.3.

4. New Zealand has not rectified its failure to establish that any of the “ancillary” measures are “SPS measures” when taken individually

51. New Zealand has again failed to explain how each of the “individual” measures at issue fall within the definition of “[SPS] measure” in Annex A(1) of the *SPS Agreement*. New Zealand’s response to the Panel’s question in this regard consisted of it providing reasons for why each measure “operated in its own right”: that each of the measures at issue is time- and resource-intensive, they may occur separately in time, and they may involve consequences if not complied with.⁷⁶ But Australia has never disputed that each of the measures at issue may be challengeable in WTO dispute settlement generally, and none of the reasons given by New Zealand have any relevance to the definition of “[SPS] measure” which only encompasses measures which are aimed at protecting against SPS risks. Accordingly, New Zealand has failed to establish that the individual “ancillary” measures are “[SPS] measures” *when taken alone*.

52. In response to a comment from New Zealand,⁷⁷ Australia notes that the question of whether the measures at issue are “[SPS] measures” within the meaning of Annex A(1), is quite separate to whether a risk assessment evaluated likelihood according to the SPS measures which might be applied pursuant to Annex A(4).

53. Therefore, Australia submits that the Panel should examine the measures *collectively*, in accordance with the close relationships previously identified by Australia.⁷⁸

5. New Zealand seeks to downplay Australia’s due process concerns

54. Australia has drawn attention to, and elaborated upon, its due process concerns in several of its communications with the Panel during the expert phase of the case.⁷⁹ The Panel put a number of written questions on the issue of due process to Australia after the second meeting.⁸⁰ Australia gave full responses to these questions. New Zealand was also asked to comment on these questions. Although New Zealand asserted in relation to each of the questions that

⁷⁶ New Zealand’s responses to the Panel’s questions after the second meeting, para. 33.

⁷⁷ See: New Zealand’s responses to Australia’s questions after the second meeting, para. 3.

⁷⁸ See: Australia’s responses to the Panel’s questions after the first meeting, qs. 14, 15; Australia’s opening statement at the second meeting, para. 127.

Australia had not detailed its due process concerns, Australia has elaborated its concerns on several occasions, as noted above.

55. Despite saying that Australia has not detailed its due process concerns, New Zealand goes on to state in its response to Question 20 that it “sees no basis for any of the so-called due process concerns raised by Australia”⁸¹. New Zealand provides no argument in support of this assertion. As such, Australia requests the Panel to disregard it.

56. Question 25 from the Panel follows:

(New Zealand and Australia) Australia expressed concern over the Panel's inclusion of questions suggested by New Zealand in the written questions which were ultimately posed to the experts. Can **Australia** specify to which questions its concern relates. Can **New Zealand** comment on Australia's concern.

In response, New Zealand stated, in part:

Australia has not detailed its concerns. New Zealand will provide further comments on Australia's response to this question. However, New Zealand emphasises that these were the Panel's questions to the experts. To that end, while Australia and New Zealand were consulted on draft questions and had an opportunity to provide comments, amendments and suggestions, ultimately these were not intended to be a set of negotiated or joint questions from both the Panel and the Parties, as Australia's argument would suggest. In any event, New Zealand and Australia were given the opportunity to comment on the substance of the experts' replies to the questions posed, as well as on the Panel's use of that information, and both Parties provided extensive comments.⁸²

57. New Zealand is again wrong to state that Australia has not detailed its concerns. Australia highlighted its due process concerns with Questions 18, 19, 20, 27, 35, 37 and 38 to the experts because the Panel allowed New Zealand to limit the scope of the questions to conform with its narrow view of applicable science linked to experimental evidence obtained in orchard conditions. In this regard, Australia refers to the following paragraphs from its comments on the experts' replies:

⁷⁹ See Australia's letters to the Panel of 23 November 2008, 27 November 2008, 9 December 2008 and 19 December 2008; see also Australia's comments on the proposed questions to the experts, 19 December 2008, and Australia's comments on the experts' replies to questions, 25 March 2009.

⁸⁰ Questions 20, 21, 22, 24, 25 and 26.

⁸¹ New Zealand's responses to the Panel's questions after the second meeting, para. 35.

⁸² New Zealand's responses to the Panel's questions after the second meeting, para. 40.

84. Australia notes that Questions 18, 19, 27, 35, 36 and 37 essentially ask the same question using slightly different language and Questions 38 and 40 cover aspects of the same issues. Australia notes that Questions 18, 27 and 37 appear to be new questions substantially based on proposals by New Zealand and several of the other questions have been modified to give greater emphasis to scientific evidence drawn from experiments under orchard conditions.

85. Australia did not have an opportunity to comment on these new questions and amendments, which is a due process issue. Australia is concerned about the restriction as to the nature of the scientific evidence that the experts were asked to consider. ...⁸³

58. These paragraphs addressed Australia’s concerns and New Zealand failed to take the opportunity to comment on them in its response to Question 25 from the Panel.

59. New Zealand asserts that the Parties were given full opportunity to address issues during the expert phase of the case. Australia notes that it was not given an opportunity to comment on the questions at issue in the form they were put to the experts. Australia was not given an opportunity to comment until the experts had answered the questions. The experts’ answers were on the record by then.

III. RISK ASSESSMENT AND METHODOLOGY

1. New Zealand’s first “fundamental flaw”

60. New Zealand has argued that the probability intervals listed in Table 12 of the Final IRA Report are “arbitrary” and that this is the source of the first “fundamental flaw” in the Final IRA Report’s methodology. In this regard, New Zealand has taken issue with the interval $0-10^{-6}$, in particular, the maximum value of 10^{-6} or one in a million. It has asserted that the use of this value inflated the level of risk.

(a) New Zealand cannot rely on trade data

61. New Zealand asserted that the maximum value of 10^{-6} is “substantially greater than can be concluded on the basis of known data”, including trade data.⁸⁴ Focussing on fire blight,

⁸³ Footnotes omitted.

⁸⁴ New Zealand’s first written submission, para. 4.182.

New Zealand pointed to its trade in apples, and that of the United States, with Chinese Taipei.⁸⁵ It contended that the IRA Team could have used trade data:

[as]... a “real world” basis for deducing that the maximum probability of an event that “would almost certainly not occur” – and indeed, in this case, has not occurred in 18 years of trade – is considerably lower than one in a million on a “per apple” basis.⁸⁶

62. The use of trade data provided the “real world” basis of New Zealand’s claim regarding the use of the maximum value of 10^{-6} . Australia argued that trade data could not be equated with scientific data.⁸⁷ It also pointed to the different circumstances that exist in Australia and Chinese Taipei.⁸⁸ Dr Paulin identified significant differences in this regard⁸⁹ and confirmed this view at the meeting with the experts, at which he stated there are:

...differences between apple growing conditions in Taiwan and other countries which make the risk of introduction of fire blight far less dangerous in Taiwan. I think that these reasons are mainly the scarcity of host plants, even if you have some indeed, and the remoteness of the orchards, which are all in the mountains, that means in the centre of the island and far from any commercial establishment which could process apples from abroad.⁹⁰

63. New Zealand expanded the scope of its assertions from trade in apples with Chinese Taipei to the trade in apples with “fire blight-free countries”.⁹¹ Australia undertook a detailed analysis of New Zealand’s trade in apples with other countries which demonstrated that New Zealand’s assertion was without foundation.⁹² As New Zealand has not rebutted this analysis, Australia requests that the Panel now accept the analysis.

64. Indeed, New Zealand persisted in its opening statement at the second meeting in asserting that the international trade in apples provided no evidence that mature apples had ever led to the introduction of fire blight.⁹³ New Zealand sought support from *Japan – Apples* on this point. In its response to Question 61 from the Panel, New Zealand reiterated this assertion when it stated that:

⁸⁵ New Zealand’s first written submission, paras 4.182-4.186.

⁸⁶ New Zealand’s first written submission, para. 4.185.

⁸⁷ Australia’s rebuttal submission, para. 247.

⁸⁸ Australia’s first written submission, para. 310.

⁸⁹ Reply of Dr Paulin, q. 44.

⁹⁰ Draft transcript of the meeting with the experts, para. 463. (emphasis added)

⁹¹ New Zealand’s responses to the Panel’s questions after the first meeting, q. 107, para. 235.

⁹² Australia’s rebuttal submission, paras 252-263.

⁹³ New Zealand’s opening statement at the second meeting, para. 43.

New Zealand has demonstrated that there is no scientific evidence supporting the discrete steps in Australia's hypothetical pathway analysis, let alone for linking them together as an overall pathway. The lack of reports of fire blight being introduced via mature, symptomless apple fruit is fully consistent with this. It supports the conclusion that the pathway is purely hypothetical.⁹⁴

65. Australia also recalls the statement made by the United States in its third party submission that over the last 41 years it had exported:

...7.1 million metric tons of apples, or approximately 32.9 billion apples... to 18 countries that are identified as being either free of fire blight or from which no fire blight has been reported.⁹⁵

In response to a question from Australia about this statement, the United States conceded that:

In listing the 18 countries at issue, the United States simply provided a complete list of fire blight free countries. It did not filter out particular countries based on the significance of their apple and pear growing industry, the suitability of their climate for fire blight host plants, their level of U.S. apple imports, or any other criteria.⁹⁶

66. Like New Zealand, the United States placed significant weight on its trade in apples with Chinese Taipei. The United States went on in its answer to state that:

Taiwan, the third largest importer of U.S. apples, also produces modest quantities of apples and pears, but does not have fire blight disease.⁹⁷

Australia recalls Dr Paulin's statement that there are "differences between apple growing conditions in Taiwan and other countries which make the risk of introduction of fire blight far less dangerous in Taiwan".⁹⁸

67. Australia asked New Zealand the following question after the second meeting:

Question 4

At the second meeting, New Zealand asserted that it "has demonstrated" that the interval $0-10^{-6}$ "includes values that significantly overestimate the risk". Does this "demonstration" rely, in whole or in part, on data concerning trade in apples, such as New Zealand's trade in apples, and that of the United States, with Chinese Taipei?⁹⁹

⁹⁴ New Zealand's responses to the Panel's questions after the second meeting, para. 110. (emphasis added)

⁹⁵ United States' third party submission, para. 28.

⁹⁶ United States' responses to the Panel's and Australia's questions after the first meeting, q. 8, para. 11. (emphasis added)

⁹⁷ United States' responses to the Panel's and Australia's questions after the first meeting, q. 8, para. 12.

⁹⁸ Draft transcript of the meeting with the experts, para. 463.

⁹⁹ Footnote omitted.

New Zealand replied that it “was referring to the full range of the arguments presented in its submissions to the Panel on this issue”.¹⁰⁰ New Zealand continues then to rely on its assertions regarding the use of trade data. Australia has shown that those assertions are without foundation, as the summary in the preceding paragraphs underlines. Accordingly, Australia requests that the Panel does not take account of those assertions.

(b) New Zealand and Table 12 of the Final IRA Report

68. In its response to Australia’s question, New Zealand referred to the full range of its arguments concerning the interval $0 - 10^{-6}$.¹⁰¹ Apart from its reliance on trade data, New Zealand also asserted by reference to Biosecurity Australia’s *2001 Draft Guidelines for Import Risk Analysis* that the probability intervals in Table 12 of the Final IRA Report were “pre-determined” and not appropriate for use in the Final IRA Report.

69. Australia recalls it has identified text from the 2001 Draft Guidelines that makes clear that different examples of basic units of risk ranging from individual products, which could include an individual apple, through to consignments of products were considered in the development of the Draft Guidelines, including the probability intervals.¹⁰²

70. New Zealand has contended that the Final IRA Report:

... fails to adjust the probability values used in light of the unit being analysed, in particular in respect of the per apple methodology applied to the analysis of importation scenarios.¹⁰³

71. This is the nub of New Zealand’s position: the interval $0 - 10^{-6}$ should not have been applied in relation to the per apple methodology used in the Final IRA Report. New Zealand focuses on the maximum value of 10^{-6} , contending that:

In the context of the IRA’s “per apple” methodology, 1×10^{-6} represents an event that is predicted to occur once in every one million apples. New Zealand has demonstrated that when this interval is used in conjunction with a uniform distribution (as it was in all but one of the many times this interval was used in the IRA) the results converge to the mid-point of one in two million apples. In the context of a risk assessment that predicts an annual trade of 150 million

¹⁰⁰ New Zealand’s responses to Australia’s questions after the second meeting, para. 7.

¹⁰¹ New Zealand’s responses to Australia’s questions after the second meeting, para. 7.

¹⁰² Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras 264 & 265.

¹⁰³ New Zealand’s second written submission, para. 2.337. See also New Zealand’s responses to the Panel’s questions: 40 (para. 87), 41 (para. 89) and 45 (para. 91).

apples, the result is that “negligible” events are no longer events that “almost certainly would not occur.”¹⁰⁴

72. New Zealand has further elaborated its position as follows:

[A]n adverse event with a probability of 1×10^{-6} on a per-apple basis is equivalent to an expected occurrence of once in a million apples, or 150 times per year, based on ... Australia’s estimate of the most likely volume of apples traded (that is, 150 million apples per annum).¹⁰⁵

New Zealand’s objection is that a probability of one in a million cannot be applied where an annual trade of 150 million apples is projected because the expected occurrence of an event will be 150 times per year. Australia agrees that a likelihood of 150 outbreaks of a disease occurring each year resulting from trade should not be considered negligible. But this is an abstract argument, and despite New Zealand’s claims, this does not reflect how this interval was used in the Final IRA Report. New Zealand makes the same objection in relation to the mean of the interval $0 - 10^{-6}$, which is 5×10^{-7} or one in two million, stating that its application in a population of 150 million imported apples would result in 75 occurrences of an event per year.¹⁰⁶ It is *these outcomes* which New Zealand claims would result in “negligible” events no longer being events that “almost certainly would not occur”, which is the qualitative descriptor for the negligible likelihood in Table 12.

73. Australia has identified that New Zealand’s position is based on defective reasoning.¹⁰⁷ Australia has demonstrated that New Zealand creates a misleading impression through its references to events occurring “150 times every year” or “75 times every year”. These are statements in the abstract as New Zealand does not specify the nature of the event or where it occurs on a pathway. In this regard, Australia has underlined the importance of considering that part of the total population of 150 million apples which will carry a pest or pathogen: the relevant population.

74. Australia has referred to footnote 554 of New Zealand’s second written submission¹⁰⁸, in which it stated that:

¹⁰⁴ New Zealand’s responses to the Panel’s questions after the second meeting, para. 89.

¹⁰⁵ New Zealand’s second written submission, para. 2.342.

¹⁰⁶ New Zealand’s first written submission, para. 4.191.

¹⁰⁷ Australia’s opening statement at the second meeting, paras. 40-46; Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras 235-245 and paras 257-262.

¹⁰⁸ Australia’s opening statement at the second meeting, paras. 40-44; Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 242 & 259.

The median overall probability of entry, establishment and spread where a small proportion of apples are handled through orchard based wholesalers is 4.4×10^{-2} which equates to one instance ... every 22 years. Based on the ... [importation of] 150 million apples per year, it can be ascertained that the IRA assesses that 1 in every 3.3 billion apples will be contaminated with *E. amylovora* and pass that contamination on to an uninfested host in a fire blight free area with an infection occurring.

In answer to Question 70 from the Panel, New Zealand explained how the calculations underpinning the figures in the footnote were made.¹⁰⁹ Australia has agreed with the figures.¹¹⁰ The footnote concerns the unrestricted risk assessment relating to the probability of the entry, establishment and spread of fire blight. The relevant population in this case is not the total volume of 150 million apples which may be imported into Australia, but the *subset* of that population which will carry *Erwinia amylovora*, the organism which causes fire blight. In other words, the use of the interval is properly conditioned by the relevant population. In relation to that population, *one* instance of entry, establishment and spread of fire blight would be expected to occur every 22 years. New Zealand states that the Final IRA Report assesses that one in every 3.3 billion apples (not one in every one million or two million apples) will be contaminated with *E. amylovora* and pass that contamination on to an uninfested host in a fire blight free area with an infection occurring.

75. Australia recalls that New Zealand sought support¹¹¹ from the comment by Dr Sgrillo in reply to a written question from the Panel that a “negligible” event should not represent “200 events in one year”¹¹². When questioned on this point by Australia at the experts’ meeting,¹¹³ Dr Sgrillo acknowledged that, if only a proportion of a total population of apples was infested, then the expected number of events would be reduced proportionately.¹¹⁴ Based on his example of applying one in a million to 200 million apples, giving 200 events, Dr Sgrillo agreed that if the infested population was only 1% of the total population, or two million apples, then the number of expected events would be two.¹¹⁵

¹⁰⁹ New Zealand's responses to the Panel's questions after the second meeting, para. 123.

¹¹⁰ Australia's responses to the Panel's and New Zealand's questions after the second meeting, para. 345.

¹¹¹ New Zealand's second written submission, para. 2.340.

¹¹² Reply of Dr Sgrillo, q. 133.

¹¹³ Draft transcript of the meeting with the experts, para. 207.

¹¹⁴ Draft transcript of the meeting with the experts, para. 208.

¹¹⁵ Draft transcript of the meeting with the experts, para. 208.

76. The Panel asked Australia to elaborate on how relevant populations are addressed in the Final IRA Report.¹¹⁶ Australia did so.¹¹⁷ New Zealand was invited to comment also. However, it declined, stating that “[a]s this question is directed primarily at Australia, New Zealand will comment on Australia’s answer”.¹¹⁸ In this response, New Zealand acknowledges that the question was directed, in part, to it. Australia laid out its reasoning concerning relevant populations in its opening statement at the second meeting. At a minimum, New Zealand could have provided its views on that reasoning and made further comment after receiving Australia’s answer to the Panel’s question.

77. Australia notes that New Zealand referred to the “per apple methodology” in its answer to a question from Australia concerning *Japan - Apples*.¹¹⁹ The question asked, in part:

[H]ow does New Zealand reconcile its claim that this pathway is purely hypothetical with the panel’s finding that the pathway for fire blight through mature apples was “negligible”, and that “negligible” was defined, in that case, as “a likelihood of between zero and one in one million”?¹²⁰

New Zealand replied as follows:

The experts in *Japan – Apples* agreed that the historic and scientific evidence suggested that the likelihood of fruit being a pathway for the introduction of fire blight was “negligible”. Dr Hayward characterised “negligible” as the standard term for a likelihood between zero and one in a million. Of course, Dr Hayward was not making his comments in the context of a per apple methodology. Indeed, his comments suggest that a fire blight outbreak would occur, at most, once in a million years (which would clearly fall within Australia’s expressed ALOP). This can be contrasted to the IRA’s conclusion that a fire blight outbreak will occur once every 22 years.¹²¹

78. New Zealand pointed out that Dr Hayward did not make his comments in the context of a per apple methodology. This is correct. The salient point is that Dr Hayward did not make his comment in the context of *any* particular methodology. In other words, New Zealand can draw no support from Dr Hayward’s statement for its assertion that the interval $0 - 10^{-6}$ should not have been applied in relation to the per apple methodology used in the Final IRA Report.

¹¹⁶ Panel’s questions to the Parties after the second meeting, Question 52.

¹¹⁷ Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 282-288.

¹¹⁸ New Zealand’s responses to the Panel’s questions after the second meeting, para. 99. (emphasis added)

¹¹⁹ Question 7.

¹²⁰ Footnotes omitted.

¹²¹ New Zealand’s responses to Australia’s questions after the second meeting, para. 16. (emphasis added; footnotes omitted)

79. New Zealand goes on to assert, *without any basis* in the statement by Dr Hayward, that “his comments suggest that a fire blight outbreak would occur, at most, once in a million years”. New Zealand’s assertion is obviously linked to its attempt to show that the interval $0 - 10^{-6}$ should not have been applied in relation to the per apple methodology used in the Final IRA Report. In this context, New Zealand itself has made reference to events happening once in a million years, stating on one occasion that:

The chance of something happening once in a million years might seem to be “negligible” but the chance of something occurring once in a million apples may not, in terms of the volumes of apples traded.¹²²

Dr Hayward made no mention of an event occurring once in a million years in his statement.

2. New Zealand’s second “fundamental flaw”

80. New Zealand asserted that the second “fundamental flaw” in the Final IRA Report’s methodology is that the use of uniform distributions inflated the risk. Again, New Zealand focussed on the interval $0 - 10^{-6}$.

81. New Zealand noted that the mean of this interval when applied as a uniform distribution is 5×10^{-7} , or one in two million. New Zealand stated that, if an event has a probability of occurring once in two million apples, then, in a population of 150 million imported apples, 75 occurrences would occur.¹²³ Australia has shown that New Zealand’s reasoning on this point is defective.

(a) Uniform distributions give the same weight to all values in the interval

82. New Zealand’s case against the use of uniform distributions is summarised in the following statement:

...Australia’s choice of a maximum value of 1×10^{-6} results in the inclusion of values that significantly over-estimate the risk. The uniform distribution then gives the same weight (or likelihood) to these values as it does to lower, more realistic values. The result is that within the output values taken forward there will be an over-representation of values that, given Australia’s per apple methodology, predict that the event in question will occur with some

¹²² New Zealand’s second written submission, para. 2.338.

¹²³ New Zealand’s first written submission, para. 4.191.

frequency. To include these output values for steps in a pathway that would “almost certainly not occur”, is to significantly overestimate the risk.¹²⁴

This line of reasoning builds on New Zealand’s attempt to show that the interval $0 - 10^{-6}$ should not have been applied in relation to the per apple methodology used in the Final IRA Report. This is evident from the reference to the “over-representation of values that, given Australia’s per apple methodology, predict that the event in question will occur with some frequency”. The frequencies to which New Zealand refers are “75 times every year” or “150 times every year”. Australia has shown New Zealand’s reasoning to be defective on this point.

83. New Zealand persists with this same reasoning in its response to Question 42 from the Panel, in which it states:

In the context of the IRA’s “per apple” methodology, 1×10^{-6} represents an event that is predicted to occur once in every one million apples. New Zealand has demonstrated that when this interval is used in conjunction with a uniform distribution (as it was in all but one of the many times this interval was used in the IRA) the results converge to the mid-point of one in two million apples. In the context of a risk assessment that predicts an annual trade of 150 million apples, the result is that “negligible” events are no longer events that “almost certainly would not occur.”¹²⁵

Again New Zealand has invited the Panel to have in mind events occurring 75 or 150 times per year when reading this statement. Again New Zealand has asked the Panel to question how an event could be associated with a negligible likelihood if it occurred so many times in a year. Australia has shown why the Panel should disregard New Zealand’s invitation and question.

84. New Zealand is also critical of the use of uniform distributions because such a distribution is a “poor modeller of real world events”.¹²⁶ Australia recalls that the IRA Team used uniform distributions when the available data did not allow for a judgment to be made about a most likely value for the probability of an event occurring.¹²⁷ Australia notes the statement by Dr Sgrillo at the meeting with the experts that:

[T]he choice of distribution will depend on how much information you have, not how much numerical data only, but how much information, numerical data and other kind of information.¹²⁸

¹²⁴ New Zealand’s second written submission, para. 2.358.

¹²⁵ New Zealand’s responses to the Panel’s questions after the second meeting, para. 89. (footnote omitted)

¹²⁶ New Zealand’s responses to the Panel’s questions after the second meeting, para. 62.

¹²⁷ Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, para. 269.

¹²⁸ Draft transcript of the meeting with the experts, para. 199. (emphasis added)

85. As noted previously by Australia¹²⁹, New Zealand has asserted that:

[T]he availability of real world data should have led the risk assessors to apply a “most likely value” to their probability distributions. This could have been achieved by using a pert or triangular distribution, rather than the crude uniform distribution actually used.¹³⁰

Here New Zealand extends its misconceived reliance on trade data to argue that the IRA Team should have used this data to develop triangular and pert distributions rather than uniform distributions.

86. Australia also wishes to address New Zealand's response to Question 49 from the Panel which concerned Dr Sgrillo's comments about sampling from a uniform distribution. New Zealand stated that:

Dr Sgrillo demonstrated that when a uniform distribution is applied to the “negligible” interval, 90% of the random numbers generated will fall in the highest order of magnitude, which ranges from one in a million apples (1×10^{-6}) to one in ten million apples (1×10^{-7}). As a result, each time the model is run, there is a 90% chance that the number randomly generated will fall within this upper order of magnitude, and a much smaller likelihood that the number randomly generated will fall within the lower orders of magnitude. Put another way, 90% of the values taken forward from that step will be within the range of one in a million to one in ten million, as opposed to lower values which would better reflect an event that “almost certainly would not occur.” This outcome flows from the first two fundamental flaws identified by New Zealand – a high maximum value (and therefore an overly inclusive highest order of magnitude) and the application of a uniform distribution.¹³¹

New Zealand expressly draws in its assertions regarding the use of 10^{-6} , or one in a million, by referring to a “high maximum value”. Again New Zealand is seeking to remind the Panel of its assertion that the use of $0 - 10^{-6}$ results in events occurring 75 or 150 times per year. As Australian has shown above, it is an assertion that the Panel should disregard.

87. New Zealand again referred to comments made by Dr Sgrillo in the following part of its response:

In his oral comments, Dr Sgrillo suggested a number of possible alternative approaches that would better model events that “almost certainly would not occur”, from using a maximum value of 1×10^{-16} , to giving equal weight to the

¹²⁹ Australia's second written submission, para. 265; Australia's responses to the Panel's and New Zealand's questions after the second meeting, para. 189.

¹³⁰ New Zealand's responses to the Panel's questions after the first meeting, q. 107, para. 236. See also New Zealand's second written submission, para. 2.349.

¹³¹ New Zealand's responses to the Panel's questions after the second meeting, para. 92. (emphasis added)

orders of magnitude closer to zero, to the suggestion of using a triangular distribution with zero as the most likely value. In New Zealand’s view these may be valid alternatives.¹³²

New Zealand does not offer any argument in support of its assertion that these approaches “may be valid alternatives”. Australia refers to its own response to Question 49 where it addressed the suggestions made by Dr Sgrillo. In short, one of Dr Sgrillo’s proposals is mathematically unsound.¹³³

88. However, New Zealand has not invited the Panel to consider these alternatives. It contends that:

The focus in this case, however, should be on the approach actually taken by the IRA in this case, rather than approaches that it might have, or should have, taken. And the key point that Dr Sgrillo has made, both in his written responses and orally, is that the “negligible” interval used in the IRA was not appropriate to model events that “almost certainly would not occur.” This is fully consistent with New Zealand’s arguments in this case.¹³⁴

New Zealand brings the focus back to its assertion that “the ‘negligible’ interval used in the IRA was not appropriate to model events that ‘almost certainly would not occur’”. By doing so, New Zealand underlines that this assertion is of central importance to its case on methodology. Australia submits that the lack of validity in this assertion results in the collapse of New Zealand’s case on methodology.

(b) Eliciting expert opinion

89. In its responses to a question from Australia and to questions from the Panel, New Zealand has continued to assert that it raised the argument in its first written submission that the IRA process did not encompass a method for eliciting expert opinion.

¹³² New Zealand’s responses to the Panel’s questions after the second meeting, para. 93. (emphasis added)

¹³³ Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras 267-270.

¹³⁴ New Zealand’s responses to the Panel’s questions after the second meeting, para. 93. (emphasis added)

i. Question to New Zealand from Australia

90. Australia asked New Zealand the following question on this issue:

Question 5

In its rebuttal submission, New Zealand asserted that:

There is no evidence, presented anywhere, that the Australian IRA process used any structured or recognised method for eliciting expert opinion. The mechanistic approach demonstrated by the often repeated use of the same probability distributions, and the frequent and unexplained application of a uniform distribution, is evidence that no such methods were used.

Could New Zealand identify where it raised this argument on the elicitation of expert opinion in the IRA process in its first written submission or in its answers to questions from the Panel after the first meeting?¹³⁵

New Zealand responded as follows:

New Zealand refers Australia to paragraphs 3.22, 4.179 - 4.181, 4.468 and Annex 4 to New Zealand’s first written submission. With regard to answers to questions from the Panel after the first hearing, New Zealand notes that the Panel directed a number of questions to Australia regarding the method used by the IRA Team to come to conclusions (Questions 89-90). These questions were not directed to New Zealand.¹³⁶

91. Australia addresses below the various references cited by New Zealand.

92. Paragraph 3.22 of New Zealand’s first written submission stated as follows:

In January 2002, Biosecurity Australia announced that in response to an appeal by a stakeholder it was including an apple grower on the “risk analysis panel”, apparently so that the Panel would gain expertise on “industry processes and trading patterns”. The appointment was of particular significance since the panel was to operate by consensus. The Executive Manager of Biosecurity Australia acknowledged that making such an appointment could be seen to compromise the independence of the panel and that this could be “a potential issue.”¹³⁷

This paragraph does *not* go to the assertion made by New Zealand in its second written submission that “[t]here is no evidence, presented anywhere, that the Australian IRA process used any structured or recognised method for eliciting expert opinion”¹³⁸. It concerns the

¹³⁵ Footnote omitted.

¹³⁶ New Zealand’s responses to the Australia’s questions after the second meeting, para. 8.

¹³⁷ Footnotes omitted.

¹³⁸ New Zealand’s second written submission, para. 2.348.

appointment of the industry representative to the IRA Team, not the *process* of eliciting expert opinion.

93. Paragraphs 4.179-4.181 of New Zealand's first written submission follow:

4.179 The IRA describes how the range of 0 to 1×10^{-6} was selected in the following terms:

In all cases the IRA team considered carefully whether they were confident that the range they had chosen would contain the actual value...

4.180 There is, however, no indication of the basis on which the IRA team came to the conclusion that they were "confident". In particular there is no indication why the IRA team considered that one in a million was "negligible" in the case of the importation of apples. For it is clear that whether one in a million can be regarded as "negligible" will depend on the event in question. The chance of something happening once in a million years might seem to be "negligible" but the chance of something occurring once in a million apples may not, in terms of the volumes of apples traded, be seen to be "negligible".

4.181 Risk assessments should be based not on "feelings of confidence" but rather on conclusions that are technically justified, which as the IPPC indicates means justified on the basis of the examination and evaluation of available scientific information.¹³⁹

94. Paragraphs 4.179 and 4.180 represent yet another example of New Zealand's attempt to show that the interval $0 - 10^{-6}$ should not have been applied in relation to the per apple methodology used in the Final IRA Report. They are directed at the use of the interval $0 - 10^{-6}$, *not* the use of a method for eliciting expert opinion.

95. Australia addressed New Zealand's incorrect assertion based on a selective quote in paragraph 4.181.¹⁴⁰ This paragraph does *not* raise the assertion that "[t]here is no evidence, presented anywhere, that the Australian IRA process used any structured or recognised method for eliciting expert opinion".¹⁴¹

96. Paragraph 4.468 of New Zealand's first written submission stated:

An additional reflection of the level of politicisation of the IRA process is found in the composition of the Risk Analysis Panel, subsequently known as the IRA team, which included amongst its members an Australian apple grower and former President of the Australian Apple Pear Growers Association

¹³⁹ Footnotes omitted.

¹⁴⁰ See Australia's first written submission, paras 303 & 304.

¹⁴¹ New Zealand's second written submission, para. 2.348.

(AAPGA). Given that the IRA team appears to have worked by consensus, this means that an individual whose financial interests would be affected if the doors were opened to the importation of New Zealand apples into Australia, had a direct part in all decisions taken by the team.¹⁴²

This paragraph dealt with New Zealand's baseless assertion about politicisation, *not* the assertion that "[t]here is no evidence, presented anywhere, that the Australian IRA process used any structured or recognised method for eliciting expert opinion".¹⁴³

97. Unlike the paragraphs from its first written submission cited by New Zealand, Annex 4 of that submission did refer to elicitation. It stated that:

The process for eliciting expert opinion to inform judgments about the parameters used is critical in risk analysis. The OIE notes that "... accurate subjective judgments cannot be elicited simply by asking an individual to provide a probability" and recommends a detailed workshop method to avoid bias in eliciting expert opinion. The OIE further notes that: "Biases may be introduced if the choice of experts is motivated by, for example, political or commercial reasons."¹⁴⁴

While this refers to elicitation, at *no* point does it make the assertion that "[t]here is no evidence, presented anywhere, that the Australian IRA process used any structured or recognised method for eliciting expert opinion".¹⁴⁵ There are other references to eliciting expert opinion in Annex 4, but again they are *not* linked to the assertion that "[t]here is no evidence, presented anywhere, that the Australian IRA process used any structured or recognised method for eliciting expert opinion". This is another example of New Zealand *failing* to substantiate its assertion that it had raised the issue of the IRA process not incorporating an appropriate method for eliciting expert opinion in the first stage of this dispute.

98. It is telling that paragraph 2.348 of New Zealand's second written submission which makes the assertion regarding elicitation in the IRA process is not footnoted. There are no references to paragraphs 3.22, 4.179-4.181, 4.468 and Annex 4 of New Zealand's first written submission.

¹⁴² Footnotes omitted.

¹⁴³ New Zealand's second written submission, para. 2.348.

¹⁴⁴ Footnotes omitted.

¹⁴⁵ New Zealand's second written submission, para. 2.348.

99. However, that paragraph does contain another attempt by New Zealand to show that the interval $0 - 10^{-6}$ should not have been applied in relation to the per apple methodology used in the Final IRA Report. The paragraph states, in part:

In New Zealand’s view, to treat as “negligible” a range and distribution that results in a mid-point of 1 in two million apples, when Australia expects that 150 million New Zealand apples will be imported each year, is inexplicable.¹⁴⁶

Australia has demonstrated above that New Zealand’s reasoning in this regard is defective.

ii. Questions from the Panel

100. In response to Question 30 from the Panel, New Zealand asserts that it elaborated its argument about “the absence of a transparent and structured process” for eliciting expert opinion “in previous submissions”.¹⁴⁷ The footnote to this statement follows:

See, for example, NZFWS, paras 4.179-4.181 and Annex 4; NZSWS, paras 2.346, 2.348; New Zealand Oral Statement at the Second Meeting with the Panel, para 80.¹⁴⁸

101. New Zealand refers again to paragraphs 4.179-4.181 and Annex 4 of its first written submission. Australia has shown that these paragraphs are not linked to the assertion that “[t]here is no evidence, presented anywhere, that the Australian IRA process used any structured or recognised method for eliciting expert opinion”. New Zealand also refers to paragraphs 4.179-4.181 and Annex 4 in footnotes to its responses to Questions 31¹⁴⁹, 32¹⁵⁰ and 35.¹⁵¹

iii. New Zealand’s responses to the Panel’s questions

102. In response to Question 33 from the Panel, New Zealand stated that:

The problem with the IRA’s approach is that it did not use any method at all in this regard. As confirmed by Australia (Dr Barry) during the meeting with experts “in terms of combining the expert opinions, it wasn’t a matter that each person in the room had their scientific views elicited and then combined”. It might be expected that, had the IRA team used a formal method, very few of the pre-determined ranges would have been used. It would be unlikely that a formal process which encompassed the differing views of the individuals making up the IRA Team, would be reflected perfectly by one of the pre-

¹⁴⁶ New Zealand’s second written submission, para. 2.348.

¹⁴⁷ New Zealand’s responses to the Panel’s questions after the second meeting, para. 62.

¹⁴⁸ New Zealand’s responses to the Panel’s questions after the second meeting, footnote 67.

¹⁴⁹ New Zealand’s responses to the Panel’s questions after the second meeting, footnote 73.

¹⁵⁰ New Zealand’s responses to the Panel’s questions after the second meeting, footnotes 76 and 77.

¹⁵¹ New Zealand’s responses to the Panel’s questions after the second meeting, footnote 81.

determined ranges in Table 12. In practice, whatever method was used, the vast majority (some 88% of the probability intervals applied in the IRA), used the pre-determined ranges, with little or no specific reasoning provided and no indication given of the assumptions underpinning the selection of those particular probability intervals.¹⁵²

Australia makes the following points about the assertions contained in this extract.

103. Dr Barry did outline the approach taken at the meeting with the experts. To quote further from the transcript, Dr Barry stated that:

In terms of the range, I think picking up on New Zealand's point about ensuring that the negligible range contain [*sic*] the true value. We talked quite extensively over a series of meetings about the requirements that were needed to make their beliefs and their uncertainties expressed through the distributions.¹⁵³

New Zealand asserts there was no process or method used in eliciting expert opinion in the IRA process. Dr Barry stated clearly that he and others “talked quite extensively over a series of meetings” on the issue to ensure that the IRA Team considered that intervals, including 0–10⁻⁶, contained the true value. This may not be the process preferred by New Zealand, but Australia submits that extensive discussions over a series of meetings are evidence that a process was undertaken.

104. New Zealand asserts that “[i]t might be expected that, had the IRA team used a formal method, very few of the pre-determined ranges would have been used”.¹⁵⁴ New Zealand does not identify what type of formal method would lead to the result it suggests. Moreover, New Zealand has provided no argument to support the assertion that “very few of the pre-determined ranges would have been used” had a different method been employed.

105. In Question 35, the Panel asked whether the expert judgment applied in the Final IRA Report had been subject to “peer review”. New Zealand again did not respond to the question on the basis that the “question appears directed primarily to Australia [and] New Zealand will comment on Australia’s reply”.¹⁵⁵ In this response, New Zealand acknowledges that the question was directed, in part, to it.

¹⁵² New Zealand’s responses to the Panel’s questions after the second meeting, para. 71.

¹⁵³ Draft transcript of the meeting with the experts, para. 164.

¹⁵⁴ New Zealand’s responses to the Panel’s questions after the second meeting, para. 71.

¹⁵⁵ New Zealand’s responses to the Panel’s questions after the second meeting, para. 73. (emphasis added)

106. Australia recalls that both domestic and international stakeholders, including New Zealand, were given the opportunity to comment on successive drafts of the IRA report. The process is addressed in Australia’s answer to Question 35 of the Panel’s questions after the second meeting.

3. New Zealand’s third “fundamental flaw”

107. New Zealand asserted that the third “fundamental flaw” in the methodology used in Final IRA Report is that it overestimates the likely volume of trade in apples from New Zealand and thereby inflates risk. Australia has demonstrated that New Zealand’s assertion is based on a number of faulty suppositions.

108. One of these suppositions is that New Zealand’s apple exporters will not divert apples to the Australian market. Australia has exhibited material showing that a range of factors, such as increased competition in New Zealand’s markets in the Northern Hemisphere, are placing significant pressure on New Zealand exporters. In these circumstances, Australia would be a significant new market.

109. Australia put a question to New Zealand in relation to this supposition concerning counter-seasonal trade.¹⁵⁶ It asked whether New Zealand agreed with the following statement made by New Zealand’s Ministry of Agriculture and Forestry in its 2008 Horticulture and Arable Monitoring Report:

The low Braeburn price can be attributed to a number of factors, including a large New Zealand Braeburn crop of 6 million export cartons, increased quality problems, competition from other varieties, and the use of improved storage technology by European growers.

110. In responding to this question New Zealand accepted:

... that the price for Braeburn apples has been depressed recently in New Zealand’s northern hemisphere markets, for a range of reasons including unusual delays in those markets exhausting their local supplies.¹⁵⁷

It would appear that the “long term relationships” between its apples exporters and Northern Hemisphere supermarkets to which New Zealand has referred¹⁵⁸ do not ensure a price

¹⁵⁶ Australia’s questions to New Zealand after the second meeting, q. 6.

¹⁵⁷ New Zealand’s responses to Australia’s questions after the second meeting, para. 11.

¹⁵⁸ New Zealand’s responses to the Panel’s questions after the first meeting, q. 114, para. 248.

premium for those exporters. Australia submits that depressed prices in Northern Hemisphere markets can only further encourage New Zealand’s exporters to view Australia as a significant new market.

111. In sum, Australia has shown that New Zealand’s responses to the Panel’s questions on methodology have not rectified the serious shortcomings which Australia has previously identified in New Zealand’s case on methodology.

IV. FIRE BLIGHT

1. New Zealand has failed to discharge its burden of proof on fire blight

112. As Australia noted in the second meeting, there is a genuine question in this dispute about whether New Zealand has discharged its burden of proof in relation to fire blight.¹⁵⁹ Australia recalls that New Zealand’s fire blight case is fundamentally driven by one argument: that there is no pathway for fire blight through mature apples, and that it presses this argument in almost identical substantive terms under Article 2.2 and Article 5.1.¹⁶⁰ New Zealand maintains its claim that the pathway is “hypothetical”.¹⁶¹

113. New Zealand attempts to support this claim on three bases: *Japan – Apples*, Roberts and Sawyer (2008) and trade data with Chinese Taipei. However, each of these three bases have been discredited by Australia and shown to be irrelevant by the fire blight experts.¹⁶² New Zealand nevertheless continues to assert the relevance of *Japan – Apples* and trade data.

¹⁵⁹ Australia’s closing statement at the second meeting, para. 10.

¹⁶⁰ New Zealand’s second written submission, paras. 2.73, 2.106 & 2.371. In para. 2.106 of New Zealand’s second written submission, New Zealand notes that the key question for fire blight under Article 2.2 is whether there is an objective or rational relationship between Australia’s measures and “scientific evidence on the question of whether a pathway exists for the introduction of fire blight through mature apples”. In para. 2.371 of New Zealand’s second written submission, New Zealand states that “Australia’s risk assessment for fire blight does not withstand scrutiny because it depends on a hypothetical pathway rather than one for which there is any scientific evidence.” Further, in para. 2.73, New Zealand states “[n]o evidence of the existence of such a pathway is contained in the whole of the IRA and thus the IRA fails to assess risk in accordance with Article 5.1.”

¹⁶¹ New Zealand’s responses to the Panel’s questions after the second meeting, paras. 89, 92, 110-112, 114 & 191; New Zealand’s responses to Australia’s questions after the second meeting, para. 12.

¹⁶² Reply of Dr Paulin, qs. 41 & 44; Reply of Dr Deckers, 41 & 44; Draft transcript of the meeting with the experts, para. 463. See: Australia’s closing statement at the second meeting, para. 11.

114. New Zealand’s secondary claim, that individual intermediate conclusions in the risk assessment are not based on sufficient scientific evidence,¹⁶³ has gained more prominence in New Zealand’s responses. However, New Zealand has failed to demonstrate any serious flaw in any intermediate step in the risk assessment and ignores critical opinions from the experts which clearly demonstrate that the IRA Team’s analysis in the fire blight risk assessment is objectively justifiable. As Australia noted previously, there is only one step in the fire blight risk assessment that is subject to any real uncertainty and that is the “exposure” step.¹⁶⁴ But even on the “exposure” step there is respectable, indirect evidence supporting the IRA Team’s conclusion that *E. amylovora* can be transmitted from an apple to a susceptible host plant and initiate a fire blight infection. New Zealand has attempted to rebut this by asserting that there is no evidence to support this conclusion.¹⁶⁵ However, the evidence New Zealand advances to support its claim¹⁶⁶ is not relevant to the risk scenario contemplated, taking account of Australia’s ALOP. New Zealand does not appreciate that leading evidence which shows that a risk is not common does not establish a *prima facie* case that a risk is not rare. This oversight is fatal to its fire blight case.

115. Australia will address New Zealand’s responses in the context of these issues. It will show that, far from advancing its case, New Zealand has provided further evidence that it fails to meet its burden of proof.

2. New Zealand’s pathway argument remains unsubstantiated

116. Australia has previously set out why it considers New Zealand’s concept of a hypothetical pathway to be flawed and without basis in the fire blight context.¹⁶⁷ New Zealand’s insistence that the pathway for fire blight through mature apples is “hypothetical” and purely “speculative”¹⁶⁸ goes against Dr Deckers’ and Dr Paulin’s categorical rejection of this claim and Dr Schrader’s confirmation that it is not scientifically sound to exclude a pathway from a risk

¹⁶³ New Zealand’s responses to the Panel’s questions after the second meeting, paras. 57, 84-86, 117, 203.

¹⁶⁴ Australia’s opening statement at the second meeting, para. 73.

¹⁶⁵ New Zealand’s responses to the Panel’s questions after the second meeting, para. 203.

¹⁶⁶ **Exhibit NZ-27:** Hale *et al.* (1996) and **Exhibit NZ-28:** Taylor *et al.* (2003a).

¹⁶⁷ See: Australia’s responses to the Panel’s questions after the second meeting, qs. 37 & 118; Reply of Dr Schrader, q.45; Reply of Dr Paulin, qs. 16 & 45; Draft transcript of the experts’ meeting, paras. 213 (Dr Schrader), 226 (Dr Paulin), 227, 259 & 378 (Dr Deckers).

¹⁶⁸ New Zealand’s responses to the Panel’s questions after the second meeting, paras. 89, 92 & 112.

assessment on the basis that it has not been historically confirmed.¹⁶⁹ However, as New Zealand has not resiled from its position,¹⁷⁰ Australia considers this an indication that New Zealand wishes its case to be determined on this basis.

(a) *Japan – Apples continues to lack probative value*

117. The credibility of New Zealand’s pathway argument is diminished by its continued reliance on *Japan – Apples*. New Zealand notes that:

The experts in *Japan – Apples* agreed that the historic and scientific evidence suggested that the likelihood of fruit being a pathway for the introduction of fire blight was “negligible”. Dr Hayward characterised “negligible” as the standard term for a likelihood between zero and one in a million.¹⁷¹

118. In acknowledging Dr Hayward’s statement, New Zealand effectively concedes that *Japan – Apples* does not support its claim that there is *no* pathway for fire blight through “mature, symptomless apples”. New Zealand seeks to nevertheless continue its claim that the pathway is “hypothetical” by citing the panel’s finding that “the elements submitted by Japan are in fact largely *hypothetical* or circumstantial”.¹⁷²

119. However, Australia considers that the words “elements submitted by Japan” make quite clear that this finding was not a comment on the general biology of the pathway but a comment on the quality and quantity of the evidence actually led by Japan. Given how important the evidence actually led in that case was to the findings made by that panel, New Zealand’s continued reliance on the case undermines its claim. It has not established that the scientific evidence in *Japan – Apples* was identical to the scientific evidence considered in the Final IRA Report. Nor is it credible for New Zealand to imply that the scientific evidence on fire blight is open to only one interpretation, and that interpretation will be same irrespective of circumstances.¹⁷³ In the absence of any analogy between the two cases, there is no basis for its assertion that “Australia’s risk assessment for fire blight ... should be rejected for the same

¹⁶⁹ See: Reply of Dr Schrader, q.45; Reply of Dr Paulin, qs. 16 & 45. Draft transcript of the meeting with the experts, paras. 213 (Dr Schrader), 226 (Dr Paulin), 227, 259 & 378 (Dr Deckers).

¹⁷⁰ See, in particular: New Zealand’s responses to the Panel’s questions after the second meeting, qs. 61 & 118.

¹⁷¹ New Zealand’s responses to Australia’s questions after the second meeting, para. 12 (footnotes omitted).

¹⁷² Panel Report, *Japan – Apples*, para. 8.170 cited in New Zealand’s responses to Australia’s questions after the second meeting, para. 14.

¹⁷³ See: Australia’s responses to the Panel’s questions after the second meeting, paras.53-56.

reason”¹⁷⁴ as those given in *Japan – Apples*. Australia recalls that this case concerns a comprehensive, product specific risk assessment – a material difference from the *Japan – Apples* case.¹⁷⁵

120. *Japan – Apples* again has been shown to provide no support for New Zealand’s pathway claim. Accordingly, Australia reiterates its view that New Zealand’s primary claim against the fire blight risk assessment remains unsubstantiated by convincing and reliable evidence.

(b) New Zealand cannot rely on the lack of reported transfers of fire blight through mature, symptomless apples

121. New Zealand now also draws support for its pathway claim from the lack of reported cases of fire blight transmission. New Zealand asserts that it “does not contend that the lack of any reported transfers is *proof* that there has been no instance of the introduction, establishment and spread of the disease via mature, symptomless fruit, however it is consistent with such a conclusion”.¹⁷⁶ “It supports the conclusion that the pathway is purely hypothetical.”¹⁷⁷

122. Australia recalls that New Zealand relies primarily on trade data to support its claim that there are no reported transfers of fire blight through mature, symptomless apples.¹⁷⁸ Australia has shown, and has shown above, that trade data is a wholly unreliable basis for drawing any conclusions about the existence or non-existence of the fire blight pathway.¹⁷⁹ In addition, Australia made the following observation in its rebuttal submission:

[C]ommercial trade in New Zealand apples does not occur in the absence of measures (ie. it is not wholly unrestricted) If risk mitigation measures are in place, then by definition, it is logically inconsistent to argue that trade taking place under such conditions is evidence that fire blight cannot spread through export apples. For example, transport of New Zealand apples over long distances has to occur under cold storage or controlled atmosphere conditions ... New Zealand itself argues that routine cold storage reduces bacterial populations to undiscernible levels ... If New Zealand’s argument is taken at face value, it cannot credibly claim that on the one hand cold storage kills

¹⁷⁴ New Zealand’s responses to Australia’s questions after the second meeting, para. 12.

¹⁷⁵ See: Australia’s responses to the Panel’s questions after the second meeting, para. 56.

¹⁷⁶ New Zealand’s responses to the Panel’s questions after the second meeting, para. 111.

¹⁷⁷ New Zealand’s responses to the Panel’s questions after the second meeting, para. 110.

¹⁷⁸ For example, New Zealand’s first written submission, 3.53 & 4.27-4.29.

¹⁷⁹ Australia’s rebuttal submission, paras. 338-343.

E. amylovora and at the same time assert that trade in export apples provides evidence that apples do not transmit *E. amylovora*.¹⁸⁰

123. On this basis, even if trade data could tell risk assessors something about risk once phytosanitary measures are applied, it is a wholly inappropriate basis to draw conclusions about the expected risk where trade is unrestricted, ie. risk in the absence of measures.

(c) New Zealand itself bases measures on hypothetical pathways

124. Australia asked whether New Zealand imposed risk management measures on products even when the pathway of entry associated with the pests had not been confirmed by historical evidence. New Zealand did not address the substance of Australia’s question in its reply.¹⁸¹ Australia therefore considers it open to the Panel to infer that New Zealand does in fact impose measures in the absence of historically documented pathways and that it considers such action to remain entirely consistent with the obligations in the *SPS Agreement*.

125. Accordingly, Australia submits that New Zealand’s claim that measures cannot be imposed in relation to hypothetical pathways has no basis in the text of the *SPS Agreement*, nor *Japan – Apples*, trade data, international standards, the practices of WTO Members, or indeed, its own.

3. A restriction to “mature, symptomless apples” would not achieve Australia’s ALOP

126. Contingent on New Zealand’s claim that there is no pathway for fire blight through “mature, symptomless apples”, is the claim that no measures are therefore warranted to manage risk.¹⁸² New Zealand continues to assert that measures are not sufficiently warranted for fire blight and appears to claim expert support for its views.

127. Australia recalls that at the experts’ meeting, Dr Paulin made the following statement:

In my view, the importation of bacteria with apple is probably possible. ... And I think that the total process, the risk represented by the total process, is probably of the same order of magnitude as the transport of contaminated insects by natural way from New Zealand to Australia by air jet or things like that. So ... that there is a possibility which level of risk is not far higher than

¹⁸⁰ Australia’s rebuttal submission, paras. 341. (footnote omitted)

¹⁸¹ New Zealand’s responses to Australia’s questions after the second meeting, q.3, para. 6.

¹⁸² New Zealand’s second written submission, para. 2.106.

the natural spreading possibility of the bacteria to go from place to another with something else ... which has no connection with trade of apples.¹⁸³

128. New Zealand asserts that “it follows from [Dr Paulin’s comment] that measures on apple fruit would provide no additional protection for Australia against fire blight than having no measures”.¹⁸⁴

129. New Zealand’s assertion is logically flawed. First, Australia has noted that the level of risk associated with a natural pathway is irrelevant for the purposes of this dispute. Australia’s ALOP is the only appropriate basis to assess whether measures for fire blight will be sufficiently warranted. Measures are accordingly sufficiently warranted if the overall risk associated New Zealand apples exceeds Australia’s ALOP, *not* the level of risk associated with a natural pathway.¹⁸⁵ Secondly, measures for trade *would* provide additional protection against fire blight because it would significantly reduce the risks associated with the trade pathway. It is a mathematical certainty that if there are several pathways for risk, including natural pathways and trade pathways, and the risks associated with one pathway are reduced, the overall risk will also be commensurately reduced. Finally, New Zealand has ignored the fact that the risk associated with the trade pathway cannot be determined in the abstract, but only according to volume of trade. As Dr Sgrillo confirmed, risk increases as volume increases.¹⁸⁶ It is impossible to compare the risks associated with highly variable and diverse natural and accidental pathways, with the risks associated with a significant volume of ongoing and quantifiable trade on an annual basis. There is no question that reducing the risk in relation to such a volume of trade would provide “additional protection” against fire blight.

130. New Zealand also asserts that:

... many of the experts’ comments on measures were directed at reducing the likelihood of apples being imported into Australia with *E. amylovora* on them. But this is not the risk being managed. ... [I]t is clear that the experts’ comments do not provide “general support” for Australia’s fire blight measures in relation to the risk being assessed in the IRA, namely “the risk of *entry establishment and spread* of fire blight combined with an assessment of *consequences*”.¹⁸⁷

¹⁸³ Draft transcript of the meeting with the experts, para. 379.

¹⁸⁴ New Zealand’s responses to the Panel’s questions after the second meeting, para. 125

¹⁸⁵ Australia’s responses to the Panel’s questions after the second meeting, para 351.

¹⁸⁶ Reply of Dr Sgrillo, q. 137.

¹⁸⁷ New Zealand’s responses to the Panel’s questions after the second meeting, para. 205.

131. It is true that risk is the probability of entry, establishment and spread of fire blight combined with an assessment of consequences.¹⁸⁸ However, Australia considers that New Zealand has confused the *calculation* of risk with how it should be *managed*. Clearly, risk is calculated by reference to all the factors identified in Annex A(4), Article 5.2 and Article 5.3 of the *SPS Agreement*. However, depending on the pest at issue, some elements of risk will contribute more significantly to the overall risk than others or may be more amenable to risk management. For example, in the fire blight risk assessment, New Zealand has correctly identified that Importation steps 2, 3 and 5 contribute most to the overall infestation level.¹⁸⁹ Accordingly, it makes sense that the principal risk reduction measures for fire blight attempt to reduce overall risk by targeting these steps.¹⁹⁰

132. The experts clearly support the IRA Team’s approach in this regard. As Australia noted in its rebuttal submission, “by commenting on what measures may reduce infestation, Dr Deckers and Dr Paulin appear to accept that *infestation is an element of risk worth managing*”.¹⁹¹

133. Australia notes that Dr Paulin confirmed his view that both Australia’s principal risk reduction measures for fire blight (fruit to be sourced from orchards with low pest prevalence and chlorine disinfection) were warranted. At the experts’ meeting, the following discussion¹⁹² took place between Ms Hillman and Dr Paulin:

Kirsten Hillman

233. ... Again to Dr Deckers and Dr Paulin, do you have any comments and if you do could you offer them on Australia's requirement then to (i) disinfect apples; and (ii) disinfect packing house equipment, based on the answers you have just provided, if you have some elaboration on those measures.

Dr Paulin

234. In my opinion, disinfection of apples is an additional safety. If you have these residual populations I was speaking of at the moment, then it will disappear with the disinfection process. This applies to fruits. ... So for fruit, I would agree this is a safety measure that would seem to be reasonable.

¹⁸⁸ See: Australia’s first written submission, para. 227 citing the definition of “risk” in ISPM No.5.

¹⁸⁹ New Zealand’s second written submission, Annex 1, pp. 317-318.

¹⁹⁰ Final IRA Report, Part B, p. 111, Table 27.

¹⁹¹ Australia’s rebuttal submission, para. 357.

¹⁹² Draft transcript of the meeting with the experts, paras. 233-236. (emphasis added)

Kirsten Hillman

235. Dr Paulin, if I could ask in your response just now, you had said that you felt that this was a useful additional protection measure, but additional to what, if I may ask.

Dr Paulin

236. In my mind, additional to the first safety measure, which would be to be sure that the fruits are originating from orchards without active fire blight symptoms.

134. As Australia noted previously, the experts’ support in relation to Australia’s risk management measures is highly significant.¹⁹³ It confirms that the IRA Team’s conclusion that the risk of fire blight introduction through “mature, symptomless apples” exceeds Australia’s ALOP falls within the spectrum of legitimate science.¹⁹⁴ Accordingly, any purported flaws in the Final IRA Report’s fire blight risk assessment cannot be so serious that they compromise the objective justifiability of its overall conclusions.

4. Intermediate conclusions in the risk assessment

135. As Australia noted in its opening statement at the second meeting, once New Zealand’s pathway argument falls away, the only remaining question is whether New Zealand has established serious flaws in the Final IRA Report.¹⁹⁵ Australia reiterates that “New Zealand has consistently failed to show any serious flaws in the levels of probability assigned to key steps in the pathway, and consequently, has not overturned the IRA Team’s overall conclusion that the risk is above Australia’s ALOP.”¹⁹⁶

136. Australia does not consider that there could be any clearer or stronger endorsement of the overall conclusion on risk reached in the Final IRA Report than the experts’ support for Australia’s principal risk reduction measures. Accordingly, this support must be given due weight and the Panel should review any contradicting evidence in light of this positive support.¹⁹⁷

¹⁹³ Australia’s comments on the experts’ replies, para. 39; Australia’s rebuttal submission, para. 357.

¹⁹⁴ Australia’s rebuttal submission, para. 357; Australia’s responses to the Panel’s questions after the second meeting, para. 351.

¹⁹⁵ Australia’s opening statement at the second meeting, para. 80.

¹⁹⁶ Australia’s opening statement at the second meeting, para. 80.

¹⁹⁷ Australia’s comments on the experts’ replies, paras 60 & 78.

(a) Importation step 1

137. New Zealand seeks to justify its failure to provide the IRA Team with information regarding area freedom and low pest prevalence by asserting that it “has not made a claim ... that Australia has breach Article 6.1 or 6.2 ... nor does [it] claim that particular areas within New Zealand are free of *E. amylovora*”.¹⁹⁸ However, New Zealand makes precisely this claim *in numerical terms* by asserting that the probability assigned to Importation step 1 should have been significantly less than one.¹⁹⁹ Expressed in non-numerical terms, this is a claim that *E. amylovora* will not be present in all source orchards. But this could only be true if at least some source orchards within New Zealand were free of *E. amylovora*, ie. have area freedom. However, Article 6 expressly imposes evidentiary requirements on the *exporting* Member to demonstrate area freedom, as New Zealand acknowledges.²⁰⁰ As Australia noted in its opening statement, it does not consider that a lesser standard of proof should apply to exporting Members simply because their effective claims of area freedom arise in a risk assessment context.²⁰¹

(b) Importation steps 2, 3 & 5

138. New Zealand correctly notes that Importation steps 2, 3 and 5 make the greatest contribution to the overall level of infestation.²⁰² Australia therefore considers that New Zealand would have to demonstrate flaws in these steps such that they materially compromise the overall calculation of risk. It has failed to do so.

139. New Zealand claims that:

Dr Paulin and Dr Deckers confirmed all of the conclusions expressed in their written reports regarding the lack of scientific evidence supporting the IRA’s conclusions. These included that several of the main importation steps in Australia’s IRA lacked scientific evidence and that Australia’s conclusion as to the percentage of New Zealand apples that will be contaminated with the fire blight pathogen, *E. amylovora*, was unjustified on the evidence.²⁰³

¹⁹⁸ New Zealand’s responses to the Panel’s questions after the second meeting, para. 116.

¹⁹⁹ New Zealand’s first written submission, paras. 4.209-4.212; New Zealand’s second written submission, para. 2.402-2.403.

²⁰⁰ New Zealand’s responses to the Panel’s questions after the second meeting, para. 115.

²⁰¹ Australia’s opening statement at the second meeting, para. 82.

²⁰² New Zealand’s second written submission, Annex 1, pp. 317-318.

²⁰³ New Zealand’s responses to the Panel’s questions after the second meeting, para. 203.

140. Australia recalls that it also asked Dr Deckers and Dr Paulin whether they considered the underlying biological conclusions in the exposure analysis and Importation steps 2, 3 and 5 to be legitimate and the experts confirmed that they did.²⁰⁴ This clearly indicates that that scientific evidence supports the analysis and conclusions in the Final IRA Report. More importantly, it indicates that the experts did not consider any purported disconnect between the available evidence and the conclusions drawn to be significant in terms of the overall risk. Australia recalls its submission that sufficiency of scientific evidence is an obligation to be judged against the overall risk assessment and not in respect of intermediate conclusions. Accordingly, the experts’ replies to New Zealand’s questions on their written responses cannot be regarded as evidence that the Final IRA Report is not science-based and objective and coherent.

141. Further, New Zealand has relied on Dr Deckers to support its claim that “Australia’s conclusion as to the percentage of New Zealand apples that will be contaminated with ... *E. amylovora* was unjustified on the evidence.”²⁰⁵ However, Australia does not consider that Dr Deckers’ comments support this claim. At the experts’ meeting, Ms Hillman posed the following question to the fire blight experts:

...Australia argues that while the experts expressed some doubts about the overall probability of importation of *E amylovora*, this conclusion should be weighed against the specific support for individual importation steps, that is support from the experts. In Australia's view, there is sufficient support for the detail of the IRA teams reasoning to suggest that ‘any purported exaggeration of the probability range is not a serious flaw’. So we would like the experts to comment on this statement by Australia and if it adequately reflects your view on the matter.²⁰⁶

142. Dr Deckers responded as follows:

As far as I have understood in this area, I don't feel that there was an exaggeration of the estimation there in the importation steps. I think there is a real risk present that should be estimated as good as possible. For me it was not an exaggerated situation here. I think you are right to take the estimation in this way.²⁰⁷

143. Again, Australia considers that this statement strongly indicates that whatever reservations Dr Deckers may have had at individual, intermediate steps in the risk assessment, he

²⁰⁴ Draft transcript of the meeting with the experts, paras. 254, 345, 347, 350, 352, 357, 359, 361 & 363.

²⁰⁵ New Zealand’s responses to the Panel’s questions after the second meeting, para. 203.

²⁰⁶ Draft transcript of the meeting with the experts, para. 257.

²⁰⁷ Draft transcript of the meeting with the experts, para. 259. (emphasis added)

clearly did not consider any such flaws to compromise the overall estimate on the probability of importation for fire blight.

(c) Exposure

144. Dr Deckers’ explicit endorsement of the probability of importation in the fire blight risk assessment strengthens Australia’s claim that New Zealand has failed to establish any serious flaws in the importation scenario. Accordingly, the Panel should be confident that “only one step in the pathway is subject to any real degree of uncertainty, and that is whether *E. amylovora* can be transmitted from an apple to a susceptible host plant, and initiate a fire blight infection”.²⁰⁸

145. Australia recalls that in relation to exposure:

Australia does not have to establish that mature apples *have been* the vehicle for transmission of fire blight. Nor do we have to show it is *likely* to happen. When talking about a potential pathway, all that has to be shown is that it can rationally happen, that the probability range assigned to that step is acceptable, and the potential risk is above Australia’s ALOP.²⁰⁹

146. Australia has shown that on each of these points, the IRA Team’s analysis was directly vindicated by the experts.²¹⁰ New Zealand has not addressed the experts’ support on these critical points. It continues to assert that the exposure analysis should be impugned on the basis that experimental evidence under orchard conditions indicates that such an event is unlikely to occur:

New Zealand considers that studies showing what happens or is likely to happen under natural conditions will be more relevant in this context to establishing the risk of occurrence of Australia’s hypothetical scenario.²¹¹

147. Australia agrees that the “scenario is conceived of in the IRA as a natural one”²¹² to the extent that it seeks to model what may occur in reality. Australia does not agree that it must show “what happens” or what is “likely to happen”. Australia’s ALOP is very low which means that it is concerned with rare, not likely or common, events. Accordingly, if there were studies

²⁰⁸ Australia’s opening statement at the second meeting, para. 73.

²⁰⁹ Australia’s closing statement at the second meeting, para. 16.

²¹⁰ Australia’s closing statement at the second meeting, para. 17; Australia’s responses to the Panel’s questions after the second meeting, paras. 175-179.

²¹¹ New Zealand’s responses to the Panel’s questions after the second meeting, para. 114. (emphasis added)

²¹² New Zealand’s responses to the Panel’s questions after the second meeting, para. 114.

under natural conditions which could reliably inform risk assessors about what may be expected in rare cases, then clearly, these studies would be “more relevant”.²¹³ However, as Australia has noted,²¹⁴ the orchard evidence advanced by New Zealand on transmission is wholly unreliable for demonstrating what occurs in rare cases and the experts have confirmed this view.²¹⁵ Indeed, Dr Paulin noted that there is very little, if any, reliable direct evidence on “exposure” as a whole.²¹⁶ Accordingly, the IRA Team had no choice but to draw rational inferences from available indirect evidence and the experts confirmed that this approach was acceptable.²¹⁷

148. Despite this, New Zealand has attempted to rely on the experts’ replies to its oral questions to support its claim that there is no evidence for the IRA Team’s conclusion on exposure at all,²¹⁸ or that an analysis on indirect evidence is somehow unscientific. This is not open to New Zealand. For example, in New Zealand’s question to Dr Paulin regarding his response to Question 36, New Zealand specifically asked Dr Paulin to confirm the lack of *experimental* evidence.²¹⁹ However, Dr Paulin made precisely the same point as Australia in response:

I think it is interesting to remember the discussion that we have heard this morning, because I was actually referring to exactly the same problem. We have no data for most of these steps. No experimental factual data. So, we have to rely on, what I was calling, supposition of speculation but that can be more elaborated, obviously. Anyhow, we lack biological information...²²⁰

149. Dr Paulin’s response specifically allows for the fact that “supposition[s]...can be elaborated”. When read with the earlier comments (referred to in the quote) that it is sometimes necessary to “infer what is happening in the orchard”²²¹ from evidence under artificial conditions and that such inferences are “not outside science”,²²² Australia does not consider that Dr Paulin’s comment should be construed as an opinion that the IRA Team’s exposure analysis was unscientific, or that rational inferences made on the basis of indirect evidence were unavailable,

²¹³ See: Draft transcript of the meeting with the experts, para.251 (Dr Paulin).

²¹⁴ Australia’s responses to the Panel’s questions after the second meeting, paras. 324-325.

²¹⁵ Draft transcript of the meeting with the experts, paras. 381 (Dr Paulin) & 382 (Dr Deckers).

²¹⁶ Draft transcript of the meeting with the experts, paras. 171 & 240.

²¹⁷ Draft transcript of the meeting with the experts, paras. 171, 174, 240, 251, 254, 292, 363 & 374 (Dr Paulin); 255 & 296 (Dr Deckers).

²¹⁸ New Zealand’s responses to the Panel’s questions after the second meeting, para. 203.

²¹⁹ Draft transcript of the meeting with the experts, para. 239.

²²⁰ Draft transcript of the meeting with the experts, para. 240. (emphasis added)

²²¹ Draft transcript of the meeting with the experts, para. 171.

²²² Draft transcript of the meeting with the experts, para. 174.

as New Zealand implies. Indeed, if the Panel were to permit such a construction, Australia would consider it a breach of its due process rights.²²³

150. Accordingly, Australia has demonstrated that New Zealand's most recent responses do not advance its case. To the contrary, they expose deeper contradictions and flaws in its arguments. New Zealand's case is now irretrievable. In Australia's view, the Panel cannot be in doubt that New Zealand has failed to meet its burden of proof in relation to Australia's measures for fire blight.

V. EUROPEAN CANKER

1. Australia has climatic conditions suitable for the establishment of European canker

151. The alleged unsuitability of Australia's climatic conditions for the development of the disease continues to be a key theme in New Zealand's case.²²⁴ However, based on several different climate models, it is clear that there are areas of Australia, including commercial apple growing regions and port cities, which have climatic conditions suitable for the establishment and spread of European canker.²²⁵ In this regard, the validity of the climate analysis in the Final IRA Report has been confirmed by the Bureau of Rural Sciences (BRS).²²⁶ New Zealand's responses to the Panel's questions have not dispelled this.

(a) The Beresford and Kim model

152. Significantly, New Zealand has remained silent on the fact that the BRS has demonstrated, using New Zealand's own Beresford and Kim model, that there are areas of Australia suitable for European canker. Accepting, for argument's sake, Dr Swinburne's endorsement of the Beresford and Kim model²²⁷ (see below), and highlighting the use by the

²²³ See: Australia's response to the Panel's questions after the second meeting, paras. 129-133.

²²⁴ Australia's opening statement at the second meeting para. 97.

²²⁵ Australia's rebuttal submission, paras. 532-550.

²²⁶ Australia's first written submission, Annex 2; Australia's rebuttal submission, Annex 2.

²²⁷ New Zealand's responses to the Panel's questions after the second meeting, para. 14.

BRS of the Beresford and Kim with finer scale data, then the case that there are areas of Australia suitable for European canker is clearly persuasive.²²⁸

153. In this regard, Australia notes that the Beresford and Kim model used by New Zealand assessed the US National Climate Data Center Global Surface Summary of the Day (GSOD) database so as to “ensure a uniform and unbiased dataset for determining climate risk of European canker in all areas studied”.²²⁹ This is a synthetic data set, calculated by a model – not real weather data. Australia notes that while this may be a reasonable starting point when trying to compare international sites in relation to which there is no actual data, it is no substitute for using real weather data. The BRS analysis used real weather data obtained from the Australian and New Zealand bureaus of meteorology and government research stations. That data is of high quality, actual hourly (or better) data for specific locations.

154. In any event, Australia considers that New Zealand's responses to the Panel's questions highlight the restrictive way in which New Zealand's Beresford and Kim model operates, further highlighting that New Zealand underplays the suitability of climatic conditions in Australia for European canker.

155. First, New Zealand argues that a moving window was not appropriate for the Beresford and Kim analysis.²³⁰ Australia disagrees. The Beresford and Kim model in New Zealand's alternative climate analysis uses time periods based on calendar months (for example, 1-31 January), rather than a moving window. Clearly, calendar months have no practical significance in biology. By doing so, Beresford and Kim's method ignores that the early days in any single month can be associated with 30% of rain fall days over a 30 day average, especially in the transition between seasons. For example, there may be days with significant weather events in the first week of a particular month (for example, 1-7 January), but using the Beresford and Kim model, these will only be taken into account in the average for that particular calendar month (i.e. January). In contrast, a moving 30 day window takes into account a range of 30 day periods (for example, 8 December to 7 January, 9 December to 8 January, etc). Accordingly, the Beresford and Kim model will not necessarily detect 30 day periods where there have been 30% or more rain fall days when they cross over different calendar months.

²²⁸ Australia's responses to the Panel's questions after the second meeting, paras. 370-374.

²²⁹ New Zealand's responses to Australia's questions after the second meeting, para. 9.

²³⁰ New Zealand's responses to Australia's questions after the second meeting, para. 11.

156. Secondly, Australia also notes that Reicosky *et al.* (1989), the paper which is cited by New Zealand as support for Beresford and Kim's use of the WAVE model,²³¹ actually recommends using actual hourly data for important biological models. For this reason, the BRS used actual recorded hourly and 15 minute data (where available). Accordingly, Australia considers that the picture painted by New Zealand using the Beresford and Kim model is insufficiently detailed as to the conditions suitable for European canker establishment and spread.

157. Thirdly, New Zealand's Beresford and Kim model does not take into account the "absolute mean error"²³² (between 0.5°C and 9.3°C) associated with the WAVE model identified by Reicosky *et al.* (1989). Instead, the Beresford and Kim model constrains temperatures for European canker establishment and spread to between 11°C to 16°C. Accordingly, the magnitude of the potential errors identified by Reicosky *et al.* (1989) raise real doubts about the conclusions that Beresford and Kim arrived at using the WAVE model.

158. Finally, it is Australia's view that there is no scientific evidence for the cut-off values for rainfall and temperature chosen by Beresford and Kim. Australia has previously demonstrated that there is published literature which records significant infections occurring at climatic conditions lower than the cut-off values used by Beresford and Kim (for example, with wetness periods much shorter than rain on 30% of the days in a month (nine days) as Beresford and Kim assumed).²³³ In this regard, New Zealand has not explained how Beresford and Kim justified the cut-off value of 30% in Figures 3, 4 and 5 (that is, the values for the vertical dashed line) of its analysis in the face of this contrary evidence.²³⁴ Similarly, Australia has highlighted significant issues with respect to the choice of cut-off value for temperatures between 11-16°C for more than eight hours per day (that is, the values for the horizontal dashed line).²³⁵ In reality, existing

²³¹ New Zealand's responses to Australia's questions after the second meeting, para. 12.

²³² In statistics, the "absolute mean error" is a quantity used to measure how close forecasts or predictions are to the real outcomes; thus, the authors clearly state that their model can produce figures that are different from what would actually be recorded, by between 0.5 and 9.3 °C.

²³³ Australia's first written submission, para. 533. For example, **Exhibit NZ-12**: Dubin and English (1975) at p. 546 notes that a period of *very high infection* occurred on Red Delicious in early November 1970 coincident with *six* days of rain. Australia notes if six days were enough for *very high* infection, then less than six days would be required for lower level of infection. This same paper at p. 546 notes that four days of moisture was sufficient for infection. The paper also shows evidence of significant infection taking place with temperature range of 11-16°C for less than 8 hours a day (estimated from their weekly temperature values), in the presence of some rain. This further shows that there is no basis for limiting the cut-off value for temperature to eight hours a day.

²³⁴ Australia's first written submission, para. 533.

²³⁵ Australia's first written submission, para. 533.

scientific data indicates that an adjustment to these cut-off values is needed in order to better reflect the real world²³⁶ and the areas of Australia which are suitable for European canker establishment.

(b) Dr Swinburne's comments in the meeting should be given little weight

159. Australia has outlined the inherent problems in Dr Swinburne's contradictory reading of Annex 2 of Australia's rebuttal submission.²³⁷ Further, Australia is uncertain as to whether Dr Swinburne was aware of the above problems inherent in the Beresford and Kim model. In its responses to the Panel's questions, Australia noted that Dr Swinburne's comments on the BRS climate analysis were inconsistent with his previously published review of scientific literature on European canker.²³⁸ In view of this inconsistency, Australia considers that the Panel should attach little weight to Dr Swinburne's criticism of the BRS analyses and the arguments made by New Zealand relying on Dr Swinburne's comments. Nonetheless, Australia makes the following additional points.

160. In Australia's view, New Zealand takes too simplistic a view of the conditions needed to induce infection. First, the scientific literature indicates that conidia and ascospores can be present throughout the year.²³⁹ Secondly, as previously indicated,²⁴⁰ a single day of rain can trigger infection, indicating that in some situations infection (encompassing sporulation, dissemination and germination) can occur without the need for a prolonged period of wetness. Thirdly, wetness need not be in the form of rain; it can also occur as dew, mist and fog, and under these conditions, fine droplets of moisture can be deposited on plant parts before coalescing to form larger droplets of water and trigger infection. Further, moist conditions last for several hours after rain, particularly if the rain occurs in the evening or during overcast conditions during the day time. Finally, the *level* of infection will depend on the duration of rainfall and other environmental factors. Latorre *et al.* (2002) demonstrated that two hours of

²³⁶ For example, **Exhibit AUS-142**: Berrie (1989) showed that high levels of fruit infection occurred in summer in East Malling, UK. While Beresford and Kim does not pick up this site as suitable, when the cut-off values for rain and temperature are lowered to better align with published literature, Beresford and Kim then picks up East Malling.

²³⁷ Australia's responses to the Panel's questions after the second meeting, paras. 394-401.

²³⁸ See: Australia's responses to the Panel's and New Zealand's questions after the second meeting, paras. 394-398.

²³⁹ Australia's responses to the Panel's questions after the second meeting, paras. 360, 398 & 399.

²⁴⁰ Australia's responses to the Panel's questions after the second meeting, fn. 376.

wetness at 20°C was enough to cause approximately 94% incidence of disease on inoculated twigs.²⁴¹ A minimum of six hours of free moisture has been proposed for significant infection in other studies.²⁴² The percentage of infection increased as the free-moisture period increased. All of these factors were discussed in the Final IRA Report.

(c) The Latorre model accurately identified likely infection periods

161. Based on Dr Swinburne's misreading of Annex 2, New Zealand is also critical of the "Latorre requirements" used by the BRS as part of its climate analysis.²⁴³ However, Australia notes that the predictive model developed by Latorre *et al.* (2002) proved to be effective over two seasons in determining the need for fungicide application in infected commercial apple orchards – in other words, it successfully identified the likely infection or risk periods.²⁴⁴

(d) New Zealand's criticisms of the BRS climate analysis are unfounded

162. New Zealand's criticisms of the BRS analyses in its responses to the Panel's questions demonstrate a continued misunderstanding of how the analyses work.²⁴⁵ Further, in many ways New Zealand's comments are misleading.

163. Australia first notes that, contrary to New Zealand's responses,²⁴⁶ climate matching (CLIMATCH) was not used by the BRS except to demonstrate the bioclimatic conditions across Australia and New Zealand in the context of global bioclimatic regions associated with European canker. Climex was also used by the BRS. Climex²⁴⁷ is regarded as a "species niche habitat model" – not a climate matching model – because it takes the physiological requirements of the species into account. Again, this was used to demonstrate bioclimatic regions in Australia and New Zealand and show that both the climate and the niche modelling approaches indicate that there are bioclimatic regions in New Zealand and Australia that are similar to the global bioclimatic regions known to experience infections of European canker. CLIMATCH and Climex were not used to investigate the suitability of specific locations.

²⁴¹ **Exhibit AUS-50:** Latorre *et al.* (2002).

²⁴² **Exhibit NZ-7:** Grove (1990).

²⁴³ New Zealand's responses to the Panel's questions after the second meeting, para. 187.

²⁴⁴ **Exhibit AUS-50:** Latorre *et al.* (2002).

²⁴⁵ New Zealand's responses to the Panel's questions after the second meeting, paras. 168-175.

²⁴⁶ New Zealand's responses to the Panel's questions after the second meeting, para. 169.

²⁴⁷ Australia's rebuttal submission, Annex 2, Figure 3.

164. Secondly, Australia notes that New Zealand has suggested that the BRS used the Beresford and Kim's climatic data.²⁴⁸ This is incorrect. The BRS recognised the inaccuracies in the climate predictions used by Beresford and Kim and used actual weather data sourced directly from the relevant Government authorities — these data sources are clearly stated in both reports.²⁴⁹ Further, all of the climatic requirements used by the BRS (with the exception of the Beresford and Kim analysis) were drawn from peer-reviewed scientific papers and have been used to show that there is more than one view of the climatic conditions associated with infection and that all of these demonstrated these climatic requirements occur in Australia.

165. Thirdly, New Zealand argues that there is “no transparency as to how the years from which weather data was used were selected. In particular, there is no explanation as to why the different models employed different weather data from different years.”²⁵⁰ However, the reports clearly state that “to gain an understanding of the extremes in the range of weather conditions experienced in each location the wettest and driest years were examined for seasonal rainfall and associated temperatures”.²⁵¹ The wettest and driest years in any one location, especially in a country as large as Australia, can be different, therefore requiring the use of different years for each location.

166. In relation to the supposed difference between the “variables being analysed” and the “variables used to select the categories of weather data used”,²⁵² New Zealand misunderstands the range of temperatures that can be associated with rainfall or actual rainfall patterns across Australia (or within New Zealand). Table 3 of the BRS analysis in Australia's rebuttal submission shows the “number of days with more than 8 hours between 11-16°C and more than 30% rain days in each month”. However, it can rain outside of the 11-16°C temperature range. For example: there can be a wet year, with rain occurring in summer, when temperatures are between the 11-16°C but for less than 8 hours, or temperatures are above 16°C. Similarly it can rain for less than 8 hours or when temperatures are consistently below 11°C. Thus, suggesting that the results are “nonsensical” is misleading.

²⁴⁸ See: New Zealand's responses to the Panel's questions after the second meeting, fn. 196.

²⁴⁹ Australia's first written submission, Annex 2; Australia's rebuttal submission, p. 251.

²⁵⁰ New Zealand's responses to the Panel's questions after the second meeting, para. 172.

²⁵¹ Australia's rebuttal submission, p. 251.

²⁵² New Zealand's responses to the Panel's questions after the second meeting, para. 172.

167. New Zealand also suggests that the “degree of risk” associated with European canker should have been taken into account in the BRS analyses.²⁵³ However, the BRS analyses were strictly confined to assessing climatic conditions suitable for the establishment of European canker based on real data and are not, in any way, intended to be risk assessments. Indeed, they were applications of New Zealand's own proposed model, together with some comparisons of New Zealand's model against existing published models.

168. Finally, Australia has previously addressed²⁵⁴ New Zealand's (and Dr Swinburne's) concerns that conditions suitable for the development of inoculum were not taken into account.²⁵⁵

(e) Use of BRS climate analysis

169. Australia reiterates its view that New Zealand is attempting to argue that there is “single correct view of the science on European canker”.²⁵⁶ Further, New Zealand continues to consider that Australia should not be able to rebut arguments presented by New Zealand.²⁵⁷ However, it is clear that as New Zealand has provided its climate analysis in support of its argument that the climate in Australia is not suitable for European canker, Australia is entitled to rebut that argument, including through evidence.²⁵⁸ The BRS analyses accordingly rebut New Zealand's arguments (using New Zealand's own model) *and* support the conclusions of the IRA Team in the Final IRA Report.²⁵⁹

(f) New Zealand has failed to impugn the IRA Team's consideration of climate

170. Despite the criticisms of both Parties' analyses, the European canker experts accepted that there are parts of Australia suitable for European canker.²⁶⁰ More importantly, the exchanges throughout this dispute demonstrate the practical reality that climate analysis is a

²⁵³ New Zealand's responses to the Panel's questions after the second meeting, para. 174.

²⁵⁴ Australia's responses to the Panel's questions after the second meeting, para. 394-401.

²⁵⁵ New Zealand's responses to the Panel's questions after the second meeting, para. 173.

²⁵⁶ Australia's rebuttal submission, para. 533.

²⁵⁷ New Zealand's responses to the Panel's questions after the second meeting, para. 176.

²⁵⁸ Australia's responses to the Panel's questions after the first meeting, q. 77.

²⁵⁹ Australia has previously New Zealand's arguments at para. 30 of its responses to the Panel's questions after the second meeting with respect to the use of the 1000mm mean annual rainfall parameter used in the IRA: see Australia's rebuttal submission, para. 546.

²⁶⁰ Draft transcript of the meeting with the experts, paras. 531 & 533.

complex area. There is no universally-accepted epidemiological model for predicting the establishment and spread of European canker, and this was accepted by the experts in this dispute.²⁶¹ Accordingly, given Australia's concerns, there is no reason why New Zealand's climate analysis should be regarded as the only legitimate view. Nonetheless, even using New Zealand's climate analysis model, it can be shown that Australia has regions where the climate is suitable for the occurrence of European canker infection.²⁶²

2. Focusing on pathway 3 oversimplifies the IRA Team's model

171. Australia previously highlighted that it is too simplistic to focus purely on the figure of 9,053 apples associated with pathway 3 in Annex 2 of New Zealand's second written submission.²⁶³ New Zealand has highlighted that Importation step 5 (likelihood that clean fruit is contaminated by *N. galligena* during processing in the packing house) plays a large role in pathway 3 for European canker and accounts for a large proportion of the total number of infested/infected fruit entering Australia.²⁶⁴ In Australia's view, there is nothing illogical in this.

172. Australia has previously demonstrated that contamination in the dump tank is a real issue.²⁶⁵ Further, Kupferman (2005) stated that "when decayed fruit or dirt and debris are dumped into a tank of water, the amount of fungal spores (decay organisms) increase dramatically,"²⁶⁶ Dr Swinburne has pointed to other fungi that cause contamination in the dump tank,²⁶⁷ and Lolas and Latorre (1997) have shown twig infection at high incidence and high severity,²⁶⁸ some of which can enter the dump tank as trash.

173. Australia also understands that dump tanks in packing houses are not replenished every day. Further, even with chlorine treatment, not all spores are likely to be killed, especially where

²⁶¹ Draft transcript of the meeting with the experts, paras. 531 & 533.

²⁶² See: Australia's rebuttal submission, ps. 251-253.

²⁶³ Draft transcript of the meeting with the experts, paras. 519 & 521.

²⁶⁴ New Zealand's responses to the Panel's questions after the second meeting, para. 131.

²⁶⁵ Australia's responses to the Panel's questions after the second meeting, paras. 402-405; Australia's first written submission, paras. 589-593.

²⁶⁶ See: Kupferman, E. (2005) "Using Chlorine in the Packinghouse", *Post Harvest Pomology Newsletter*, 2(4): 5-9. Washington State University, USA. Website:

<http://postharvest.tfrec.wsu.edu/pgDisplay.php?article=N214B> (accessed October 2006).

²⁶⁷ Draft transcript of the meeting with the experts, para. 455.

²⁶⁸ **Exhibit AUS-81.** See also: Draft transcript of the meeting with the experts, para. 91, in which Dr Swinburne states that "fruiting spurs often become infected and those dead spurs, produce both conidia and ascospores. The spurs become very easily broken. They snap off. And they can form part of the trash."

there is significant plant or soil debris in the dump tank. For example, Smith (1962) says that “the chief function of chlorine is to reduce the population of microorganisms in the wash water. It does not effectively disinfect the surface of produce or reduce decay of produce already infected”.²⁶⁹

174. The level of contamination of clean fruit by spores in the dump tank considered by the IRA Team was rated to be extremely low. Taking this into account, with 97% of export fruit coming from *uninfected* orchards, an extremely low contamination rate therefore translates to a relatively significant number of *clean* fruit becoming contaminated. However, when the total volume of fruit from uninfected orchards is considered, the number of fruit becoming contaminated is still very small.²⁷⁰

3. Infection can occur at or after harvest

New Zealand states that there is no scientific evidence that infestation will lead to infection at or after harvest.²⁷¹ However, Australia notes that Berrie (1989)²⁷² demonstrated that apples sampled from commercial stores and pack houses were infected at high levels with European canker. This can only mean that either: (i) there were infestations that took place in the orchards which led to infection at or after harvest; or (ii) contamination took place during processing and led to infection. Both of these possibilities were taken into account in the Final IRA Report with respect to pathways 1 and 3. Further, Dr Swinburne himself was of the view that there could be infections which develop post-harvest,²⁷³ thus contradicting New Zealand's assertion.

4. Conclusion on European canker

175. In sum, New Zealand has not established any flaws so serious that they should prevent the Panel from having reasonable confidence in the objective justifiability of Australia's risk assessment for European canker.

²⁶⁹ See: Smith, W.L. (1962) “Chemical treatments to reduce postharvest spoilage of fruit and vegetables”, *The Botanical Review*, Vol 28, 411-445.

²⁷⁰ Australia's responses to the Panel's questions after the first meeting, para. 368.

²⁷¹ New Zealand's responses to the Panel's questions after the second meeting, para. 131.

²⁷² **Exhibit AUS-142.**

²⁷³ Draft transcript of the meeting with the experts, para. 571.

VI. APPLE LEAFCURLING MIDGE (ALCM)

176. As Australia and Professor Cross have emphasised,²⁷⁴ the IRA Team had to conduct the ALCM risk assessment in circumstances where reliable data was lacking on key issues such as the level of viable infestation on New Zealand apples, the time required for adult ALCM to emerge following cold storage and also flight distance. However, the nature of the uncertainties relevant to the ALCM risk assessment is explicitly contemplated in ISPM No. 2,²⁷⁵ and therefore such lack of data does not mean that the risk assessment in question is not objectively justifiable. It was also not possible for the IRA Team to be definitive about how the mode of trade – which could include apples packed “retail ready” or bulk trade – would impact on the risk, hence the IRA Team considered a number of potential scenarios.

1. Risk analysis for ALCM is characterised by a lack of reliable data

177. Following the second meeting, New Zealand asked Australia to reconcile its views that “the scientific evidence was sufficient to perform an objective and coherent risk assessment” even though “there is a significant lack of data available in relation to ALCM.”²⁷⁶ New Zealand appears to have been implying that it is not possible to have an objectively justifiable risk assessment where there are data constraints and uncertainty. Such a position seems inconsistent with New Zealand’s recent emphasis of the point that “the scientific evidence for the three pests at issue is sufficient ... to perform a risk assessment.”²⁷⁷ Presumably that means New Zealand agrees that the scientific evidence available is sufficient to perform an objectively justifiable risk assessment on ALCM. What New Zealand really disagrees with is that the IRA Team came to a different conclusion than that which New Zealand would have preferred, ie. that the unrestricted risk was below Australia’s ALOP.

²⁷⁴ See: Australia’s comments on the experts’ replies, paras. 215-216.

²⁷⁵ ISPM No. 2 states: “Sources of uncertainty with a particular [pest risk analysis] may include: missing, incomplete, inconsistent or conflicting data; natural variability of biological systems; subjectiveness of analysis; and sampling randomness.” (ISPM No. 2: *Framework for pest risk analysis*(2007), section 3.1; emphasis added)

²⁷⁶ New Zealand’s written questions to Australia after the second meeting, question 2.

²⁷⁷ New Zealand’s responses to the Panel’s questions after the second meeting, paras. 57, 74.

(a) New Zealand has introduced material that was not available to the IRA Team

178. Australia recalls its position²⁷⁸ that three pieces of evidence have been led by New Zealand in this dispute that were not available to the IRA Team. First, that the August 2005 data may relate to *occupied* cocoons (rather than indicating viable infestation).²⁷⁹ Second, the 2008 letter from Dr Rogers clarifying the results of the Rogers *et al.* (2006) study.²⁸⁰ And third, the paper by Sandanayaka & Rogers (2009) on adult emergence.²⁸¹ New Zealand now claims that those first and second items are “not new evidence”.²⁸²

179. In response to New Zealand's assertion that the “2008 letter from Dr Rogers ... simply confirms ... that Australia's assertions concerning the findings in Rogers *et al.* 2006 are incorrect”,²⁸³ Australia recalls its argument that the figures relied upon by New Zealand were not evident from the Rogers *et al.* (2006) paper alone.²⁸⁴ To the extent that some of those matters were clarified in Dr Rogers' 2008 letter, Australia notes that such clarification was not provided during the IRA process and therefore constitutes new information.

180. New Zealand's claim that its advice that the August 2005 data relates to occupied cocoons “is not new evidence”²⁸⁵ cannot be reconciled with the fact that New Zealand itself has changed its position on this matter during the course of this dispute.²⁸⁶ It was only in February this year that New Zealand advised that the August 2005 data reflected levels of *occupied* cocoons on apples. New Zealand provided *no evidence* in support of its assertion at that time, nor had it provided any evidence in support of its view that the August 2005 data did not

²⁷⁸ See: Australia's opening statement at the second meeting, para. 108.

²⁷⁹ New Zealand's response to the experts' factual queries, 17 February 2009; **Exhibit NZ-137**.

²⁸⁰ **Exhibit NZ-102**.

²⁸¹ **Exhibit NZ-119**.

²⁸² New Zealand's responses to Australia's questions after the second meeting, paras. 32, 33.

²⁸³ New Zealand's responses to Australia's questions after the second meeting, para. 32. (footnote omitted)

²⁸⁴ See: Australia's responses to the Panel's questions after the first meeting, q. 87; Australia's first written submission, paras. 730-731.

²⁸⁵ New Zealand's responses to Australia's questions after the second meeting, para. 33.

²⁸⁶ At an earlier stage of these proceedings, New Zealand claimed that the August 2005 data referred to “cocoons” (ie. both occupied and unoccupied), but earlier this year changed its position to assert that the August 2005 data referred only to *occupied* cocoons (suggesting that a higher proportion of ALCM recorded were viable than New Zealand had previously assumed). See: Australia's rebuttal submission, paras. 631-632.

represent viable infestation earlier in the dispute.²⁸⁷ The first time New Zealand provided any “evidence” of its assertion that the August 2005 data did not represent viable infestation but rather reflected the level of occupied cocoons was at the second meeting.²⁸⁸ Australia has explained why it considers the Panel should disregard Exhibit NZ-137.²⁸⁹

181. In response to Australia’s submission that it was not evident from Exhibit AUS-90 that the August 2005 data apparently did not refer to viable infestation, New Zealand claims that:

... the IRA’s assumption about the August 2005 [data] was incorrect and unreasonable. Determination of cocoon viability requires opening a cocoon and inspecting the organism inside, it is not able to be determined visually during fruit inspections. Given that the August 2005 data was the result of pre-export inspections of 4.56 million fruit by phytosanitary inspectors, and the IRA Team was aware of this fact, there was simply no basis for the IRA’s assumption that the August 2005 data related to viability. Under no circumstances would a phytosanitary inspection of 4.56 million apples involve opening and examining each of the cocoons found to determine viability of any organism within.²⁹⁰

182. There is nothing in this explanation that suggests it was incorrect, let alone unreasonable, to assume the August 2005 data related to viability. It is clear that the company which conducted the relevant inspections has the necessary laboratory facilities to determine whether an occupied cocoon contains a viable ALCM insect.²⁹¹ (As for the “fact” that the IRA Team was “aware of”, according to New Zealand above, Australia understands this to refer to the fact that the August 2005 data related to 4.56 million fruit, rather than whether it referred to viable infestation or not.)

183. Australia notes that it was not a matter of checking whether cocoons on all 4.56 million apples contained viable insects. Rather, the average proportion of those apples infested with an

²⁸⁷ See: Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 36-40.

²⁸⁸ **Exhibit NZ-137.**

²⁸⁹ See: Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 35-40.

²⁹⁰ New Zealand’s responses to Australia’s questions after the second meeting, para. 34. (footnote omitted)

²⁹¹ According to Exhibit NZ-137, a company called AsureQuality conducts the phytosanitary end-point inspections. AsureQuality’s website states that “AsureQuality’s PestLab is a highly specialised plant pest and disease diagnostic facility that is fully accredited as a biosecurity diagnostic facility by MAF Biosecurity New Zealand.” Further, the company provides the following services: “Extraction and identification services with supporting technical information about insects, mites, other related invertebrates and nematodes in plant, soil and potting mix samples; Pest identification, general diagnoses and control information”. Available at: <http://www.asurequality.com/laboratory_testing/plant_pest_and_disease_testing.cfm> (accessed 28 July 2009).

occupied cocoon²⁹² was 0.16%,²⁹³ which means that only 7296 infested apples²⁹⁴ over a period of four years would have to have been examined for viability.

184. Furthermore, Australia considers New Zealand’s claim to be divorced from the practice and obligations of its own quarantine authorities. The potential presence of viable ALCM on New Zealand apples is of quarantine concern to export destinations other than Australia.²⁹⁵ Given that “[t]he responsibilities of an official national plant protection organization shall include ... the disinfestation or disinfection of consignments of ... plant products ..., to meet phytosanitary requirements”,²⁹⁶ it seems incongruous for New Zealand, as a certifying authority, not to bother confirming whether its apples are infested by viable ALCM. (Australia notes that AsureQuality, which apparently carried out the relevant fruit inspections,²⁹⁷ “is a commercial company 100% owned by the New Zealand government.”²⁹⁸)

185. New Zealand’s response to Australia’s question does not change the fact that it has not established why the IRA Team should have known that the August 2005 data supposedly did not represent infestation by viable ALCM. There was nothing about the data supplied by New Zealand to the IRA Team, set out in Exhibit AUS-90, to suggest otherwise.²⁹⁹

186. In respect of the Sandanayaka & Rogers (2009) paper, which was only exhibited with New Zealand’s rebuttal submission, Australia notes that this material should not be permitted to assist New Zealand’s *prima facie* case on whether the IRA Team’s consideration of adult emergence was adequate, given that “Parties shall submit all factual evidence to the Panel as early as possible and no later than during the first substantive meeting”.³⁰⁰ This paper should not

²⁹² That the information given by the August 2005 data related to “occupied cocoons” (rather than viable infestation) is New Zealand’s assertion, for which it has provided no supporting evidence. See: Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 36-40.

²⁹³ See: Final IRA Report, Part B, Table 40, p. 166.

²⁹⁴ 4.56 million x 0.16% = 7296.

²⁹⁵ United States (California), China, Chinese Taipei.

²⁹⁶ *International Plant Protection Convention*, Article IV:2(d). (emphasis added)

²⁹⁷ See: **Exhibit NZ-137**.

²⁹⁸ “AsureQuality is a commercial company 100% owned by the New Zealand government. We provide food safety and biosecurity services to the food and primary production sectors.” See: <<http://www.asurequality.co.nz>> (accessed 28 July 2009). Further, “AsureQuality’s PestLab is a highly specialised plant pest and disease diagnostic facility that is fully accredited as a biosecurity diagnostic facility by MAF Biosecurity New Zealand.” <http://www.asurequality.com/laboratory_testing/plant_pest_and_disease_testing.cfm> (accessed 28 July 2009).

²⁹⁹ Also, see: Australia’s rebuttal submission, paras. 628-629.

³⁰⁰ Panel’s working procedures, para. 11.

be regarded as rebuttal material because New Zealand was required to support its claim that ALCM would take at least 13-18 days to emerge, which has always been one of the key elements of New Zealand’s argument on ALCM,³⁰¹ in the first stage of proceedings. Australia further recalls that Professor Cross pointed out that this study examined only larvae, and not pupae. Australia has previously addressed the significance of this point for New Zealand’s reliance on this paper.³⁰²

187. Finally, New Zealand provided no concrete response to Australia’s question as to how the Panel should use the new evidence, which was not available to the IRA Team, to judge the validity of the ALCM risk assessment which was finalised in 2006. Obviously, the IRA Team could not have considered information that was not available to it during the IRA process. Australia recognises that new reliable data would have to be taken into account in any review of the import conditions for ALCM; such a review mechanism is provided for in the Final IRA Report.³⁰³ But it is clear that still further reliable data is required and New Zealand is in the best position to provide the appropriate evidence.

(b) New Zealand is obliged to cooperate and provide relevant information

188. Professor Cross confirmed that there has been relatively little research conducted or reliable data generated on ALCM, as follows:

It is surprising that this creature is being the subject of this concern between the Parties and that more good quality studies haven’t been done. For instance, in the 2005 data it would have been very good if we’d had some data on the viability of those larvae. We’ve only had the Rogers study on viability. We have no study on the flight range of females. ... I mean, some insects have been quite extensively studied, in depth. Apple leaf curling midge is not one of those. And it’s probably been less well studied than some of the other similar members of the same genus, such as the Brassica pod midge or some of the other species.³⁰⁴

³⁰¹ In its first written submission, New Zealand argued “ALCM will not emerge from fruit as soon as it is removed from cold storage. It first has to break diapause and complete pupation, which takes 13-18 days.” (New Zealand’s first written submission, paras. 4.131, 4.361.)

³⁰² See: Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, para. 431, footnote 420.

³⁰³ See: Final IRA Report, Part B, p. 325.

³⁰⁴ Draft transcript of the meeting with the experts, para. 673.

189. Australia asked New Zealand whether it acknowledged that Australia is not in a position to procure the necessary ALCM data itself, to which New Zealand provided the following irrelevant response:

As noted by the Panel in *Japan – Apples*, Members are not exempted from the obligation to provide evidence of allegations simply because their territory is free from a particular disease. In *Japan – Apples*, in response to similar arguments made by Japan, the Panel noted: “Japan could have sought to perform or commission research on *E. amylovora* in third countries.”³⁰⁵

New Zealand’s purported reliance upon *Japan – Apples* in this regard is misguided because that panel was referring to the burden of proof and the obligation to provide evidence in support of *allegations* in the context of *dispute settlement*,³⁰⁶ and not the requirement of countries to provide relevant information in the context of *performing a risk assessment*.

190. In this regard, Australia notes Article VIII of the *International Plant Protection Convention* which is entitled “International cooperation”. Article VIII states in part:

The contracting parties shall cooperate with one another to the fullest practicable extent in achieving the aims of this Convention, and shall in particular: ... cooperate in the exchange of information on plant pests, particularly the reporting of the occurrence, outbreak or spread of pests;... cooperate, to the extent practicable, in providing technical and biological information necessary for pest risk analysis.³⁰⁷

191. Australia *did* request the relevant information to be provided by New Zealand. This was not a case where the IRA Team was idle and did nothing to try to procure the necessary data. The August 2005 data, for example, was only provided by New Zealand after *repeated requests* for such information by the IRA Team.³⁰⁸

³⁰⁵ New Zealand’s responses to Australia’s questions after the second meeting, para. 37. (footnotes omitted; emphasis added)

³⁰⁶ See: Panel Report, *Japan – Apples*, paras. 7.3, 8.44-8.48.

³⁰⁷ *International Plant Protection Convention*, Article VIII:1 (a) & (c). (emphasis added)

³⁰⁸ **Exhibit AUS-90:** Pipfruit NZ (2005), *Correspondence sent from Pipfruit NZ to Biosecurity Australia*, 3 August 2005.

2. Retail ready

(a) It is not possible to make a definitive estimate of the likely mode of trade

192. In response to New Zealand’s claim that all of its kiwi fruit and avocado exports to Australia are in retail ready form,³⁰⁹ Australia questions the relevance of evidence on packing and handling arrangements for soft fruits like kiwi fruit and avocados, which are highly susceptible to damage by excessive handling. Apples, by comparison, are much more resistant to damage. Therefore, the need to minimise potential additional handling and packing of kiwi fruit and avocados in Australia is clearly more significant than in respect of apples. In addition, commercially harvested kiwi fruit and avocados do not store for long periods, unlike apples, and therefore the need to ship them “just in time” is more important than for apples. Kiwi fruit and avocados are only commercially marketed in Australia during their production season, which is quite unlike apples that may be stored for long periods so that they appear in retail outlets all year round. Australia therefore considers Exhibits NZ-114 and NZ-136 in respect of kiwi fruit exports to be irrelevant to the likely mode of trade for apples from New Zealand to Australia.

193. New Zealand asserts that, “[i]f apples are exported in retail ready packing then ... they would not be sent to orchard wholesalers.”³¹⁰ New Zealand ignores the real possibility that “retail ready” apples would be handled, stored and sometimes repacked at orchard based facilities.³¹¹ New Zealand fails to recognise that whether apples are repacked in Australia at orchard packing houses will not necessarily be something which New Zealand or its exporters can control. New Zealand provides no reasoning or evidence in support of its assertion that “[i]n the unlikely event of retail ready fruit being re-packaged in Australia, this would occur in the urban centres where the fruit was received and not at orchard wholesalers”.³¹²

³⁰⁹ New Zealand’s responses to the Panel’s questions after the second meeting, paras. 18, 181.

³¹⁰ New Zealand’s responses to the Panel’s questions after the second meeting, para. 101. Also, see: paras. 150, 179.

³¹¹ See: **Exhibit AUS-129**: ACCC (2008); Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 294-296; Australia’s rebuttal submission, paras. 652-653.

³¹² New Zealand’s responses to the Panel’s questions after the second meeting, para. 180.

194. Accordingly, New Zealand has not established that the majority of its apple exports would necessarily be “retail ready”,³¹³ and even if they were, it has not established that insufficient quantities would be directed to orchard packing houses to pose an establishment risk for ALCM.

(b) Restricting imports to “retail ready” apples would not be a technically feasible measure

195. New Zealand further claims that “[a] measure requiring New Zealand apple exports to be retail ready would be technically feasible because it would simply make current practice mandatory.”³¹⁴ Australia notes that the only aspect of “technical feasibility” which New Zealand has addressed here relates to whether New Zealand could ensure that apples exported are packed in a certain way. It does not address the technical feasibility of ensuring that New Zealand apples would not be sent to orchard packing houses once they are released from quarantine control in Australia. It is that aspect of technical feasibility which the IRA Team had primarily in mind when it found that such a measure would not be appropriate. The IRA Team observed that “once apples are released from quarantine at import there is no practical method of ensuring that they are not handled in an orchard based packing house/wholesaler and that repacking and reconditioning of fruit were common practices.”³¹⁵ “Technical feasibility” does not only concern whether the *exporting* Member can implement the required measure; it may also take account of whether it is feasible in the importing country.

196. In response to New Zealand’s assertion that “it would make no commercial sense” for “retail ready” fruit to be sent to orchard wholesalers for repackaging or reconditioning,³¹⁶ Australia responds that while this may not happen in the normal course of events, it may nevertheless occur as Australia has explained.³¹⁷

³¹³ See: Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 289-299.

³¹⁴ New Zealand’s responses to the Panel’s questions after the second meeting, para. 178.

³¹⁵ Final IRA Report, Part B, p. 115.

³¹⁶ New Zealand’s responses to the Panel’s questions after the second meeting, para. 179.

³¹⁷ See: Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 290-296; Australia’s rebuttal submission, paras. 650-654; Final IRA Report, Part B, p. 115.

197. New Zealand also claims that:

And, in any event, as confirmed by the panel in *Japan – Apples*, issues relating to the correct implementation of a measure are separate to consideration of technical feasibility under Article 5.6. Were a retail ready measure to be put in place, Australia would be entitled to establish mechanisms, appropriate to the circumstances and compatible with the *SPS Agreement*, to ensure that only retail ready fruit was imported into its territory, and that such fruit was not sent to orchard wholesalers.³¹⁸

Australia notes that, in the relevant section of the panel’s report,³¹⁹ the panel was addressing Japan’s concern that “its ALOP may not be met by the US requirement if sufficient guarantees are not obtained in terms of implementation.”³²⁰ Australia observes that whether an importing Member can trust an exporting Member to “correctly implement” a measure is different to the “technical feasibility” of a potential measure within the meaning of footnote 3 to Article 5.6. The issue of whether “retail ready” is technically feasible is not merely a matter of obtaining “sufficient guarantees” from New Zealand as to its mode of export. The concern of the IRA Team was that “there is no practical method of ensuring that they are not handled in an orchard based packing house/wholesaler” once apples are released from quarantine in Australia.³²¹ New Zealand has not rebutted the validity of the IRA Team’s view in this regard.

198. In any event, the only “alternative” measure which New Zealand has pursued in relation to ALCM is a 600-unit inspection *alone*.³²² Similarly, “mature, symptomless apples” is the only potential “alternative” which New Zealand has identified for fire blight and European canker.³²³ Australia only raised the issue of the potential technical feasibility of “retail ready” as a measure in response to New Zealand’s assertion that the IRA Team should have but failed to adequately evaluate such a potential measure during the risk assessment. As Australia has explained, such a potential measure *was* evaluated by the IRA Team,³²⁴ and furthermore New Zealand has

³¹⁸ New Zealand’s responses to the Panel’s questions after the second meeting, para. 180. (footnotes omitted)

³¹⁹ New Zealand has referred to paragraphs 8.195 and 8.180 of the panel’s report in *Japan – Apples* in support of the above assertion. Australia assumes that it meant to refer to the report in *Japan – Apples (Article 21.5 – US)*.

³²⁰ Panel Report, *Japan – Apples (Article 21.5 – US)*, para. 8.195.

As the compliance panel explained, Japan’s concern was that the “inspection system put in place by the United States might, on some occasions, fail to guarantee that all exported apples are mature and symptomless.” (Panel Report, *Japan – Apples (Article 21.5 – US)*, para. 8.178.)

³²¹ Final IRA Report, Part B, p. 115.

³²² See: New Zealand’s first written submission, paras. 4.138, 4.513.

³²³ See: New Zealand’s first written submission, paras. 4.490, 4.491.

³²⁴ See: Final IRA Report, Part B, p. 115; Australia’s rebuttal submission, paras. 432-434, 598, 692.

identified no obligation whereby risk assessments are required to evaluate particular measures merely because an exporting Member has requested such.³²⁵ The options for “equivalent” or “alternative” measures to be duly considered *after the risk assessment phase* are provided for in Articles 4.1 and 5.6 of the *SPS Agreement*.

3. The risk assessment for ALCM remains objectively justifiable

199. The IRA Team estimated that between 50 and 1661 infested apples would arrive at each of seven orchard packing houses each week.³²⁶ Even if the “majority” of New Zealand apples were imported “retail ready” as New Zealand claims, which is not something that either Party can predict before any trade has occurred,³²⁷ the figure of 50 infested apples was derived from the IRA Team’s analysis of the scenario whereby only 0.1%–5% of apples were distributed to orchard packing houses. Further, even if the viable infestation level of New Zealand apples is half of what the IRA Team assumed,³²⁸ then that would still result in 25 apples infested with viable ALCM at *each of seven orchard packing houses each week*.³²⁹

200. So it is evident that more than enough apples infested with ALCM would be directed to orchard packing houses for there to a risk of establishment. Taking into account New Zealand’s failure to substantiate its core argument that apple waste will never be left uncovered,³³⁰ it is clear that New Zealand has failed to establish any serious flaws that would have made a material difference to the IRA Team’s conclusion that the unrestricted risk exceeds Australia’s ALOP.

4. A 600-unit inspection would not achieve Australia’s ALOP

201. Once it is established that risk management is required by reason of the risk being above Australia’s ALOP, Australia has shown that a 600-unit inspection would be inadequate to

³²⁵ See: Australia’s rebuttal submission, paras. 129-135, 139-146.

³²⁶ Final IRA Report, Part B, Table 43, p. 174.

³²⁷ See: Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, q. 53, paras. 289-299.

³²⁸ Professor Cross suggested that the August 2005 data range could be reduced by a factor of 0.5 to account for viability given New Zealand’s claim that the August 2005 data reflected levels of occupied cocoons. See: Draft transcript of meeting with the experts, para. 625; Reply of Prof. Cross, q. 99.

³²⁹ This figure assumes that New Zealand apples will be imported over a 26-week period. See: Final IRA Report, Part B, Table 43, p. 174.

Also, see: Australia’s rebuttal submission, paras. 645-647.

³³⁰ See: Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 420-431.

achieve Australia's ALOP because it would allow too many consignments of New Zealand apples infested with ALCM to pass inspection without requiring fumigation.³³¹

202. In response to New Zealand's complaint that "Australia ... selected measures that would result in fumigation of virtually every apple",³³² Australia notes that it is entitled to set its own ALOP. Furthermore, the Final IRA Report clearly indicates that some New Zealand apples would not be fumigated because a 3000-unit inspection would still allow 0.005% of New Zealand apples to enter Australia with viable ALCM on them.³³³

203. New Zealand also claims that "Australia should have determined, on the basis of the overall risk and its ALOP, a tolerance infestation level, and used this to determine the appropriate sample size."³³⁴ Australia considers that this was in fact what the IRA Team effectively did. The Final IRA Report records that Australia's ALOP could not tolerate an infestation level of 0.06%, but that it could tolerate an infestation level of 0.005%.³³⁵

204. Finally, Australia recalls the doubt of Professor Cross that a 600-unit inspection *alone*, ie. without any other measures, as New Zealand has proposed,³³⁶ would achieve Australia's ALOP for ALCM.³³⁷

³³¹ See: Australia's rebuttal submission, paras. 682-687; Australia's responses to the Panel's and New Zealand's questions after the second meeting, paras. 462-468.

³³² New Zealand's responses to the Panel's questions after the second meeting, para. 162.

³³³ See: Final IRA Report, Part B, p. 190.

³³⁴ New Zealand's responses to the Panel's questions after the second meeting, para. 163.

³³⁵ See: Final IRA Report, Part B, p. 190.

³³⁶ See: New Zealand's first written submission, para. 4.513.

³³⁷ Professor Cross' responses to questions indicated that he considered that a 600-unit inspection would only be adequate if it was coupled with additional measures.

In his written Reply to q. 120, Professor Cross stated that:

The requirements for a 3000 fruit inspection or for fruit fumigation are clearly restrictive and alternative measures coupled with a 600 fruit inspection would be preferable provided they met Australia's ALOP. (emphasis added)

VII. FURTHER MATTERS

A. ARTICLE 5.6

1. New Zealand should not be permitted to expands its claims

205. In response to Australia’s concern that New Zealand attempted to use its rebuttal submission to expand its claims under Article 5.6 by introducing new “alternative” measures,³³⁸ New Zealand has argued:

New Zealand has made no new “claims” in its rebuttal submission. ... The claim made in New Zealand’s second written submission on this issue is identical to that in its first – that Australia has violated Article 5.6.

While New Zealand may have developed, in its second written submission, the arguments supporting its claim that Australia has violated Article 5.6, it is entitled to do so. As confirmed by the Appellate Body in *EC – Bananas*: “There is no requirement in the DSU or in GATT practice for arguments on all claims relating to the matter referred to the DSB to be set out in a complaining party’s first submission to the panel.” The panel in *Japan – Apples* noted: “it is well established that a complainant is not prevented, as a matter of principle, from developing in its second submission arguments relating to a claim that is within the terms of reference of the panel, even if it did not do so in its first written submission.”³³⁹

Australia notes New Zealand’s admission in the quoted extract above that it has further “developed” its Article 5.6 case beyond what was in its first written submission.

206. Australia considers New Zealand’s purported reliance upon the reasoning in *EC – Bananas* and *Japan – Apples* to justify its conduct demonstrates its failure to understand either decision. Australia is well aware that “it is in the nature of the Panel process that the claims made by a party may be progressively clarified and refined throughout the proceeding.”³⁴⁰ As the Appellate Body has explained, arguments supporting a claim may be “set out and progressively clarified in the first written submissions, the rebuttal submissions and the first and second panel meetings with the parties.”³⁴¹ But while complainants are entitled to *refine* and *clarify* their claims and arguments during the course of the proceedings, there is no entitlement to

³³⁸ See: Australia’s opening statement at the second meeting, paras. 27 & 28.

³³⁹ New Zealand’s responses to the Panel’s questions after the second meeting, paras. 200-201. (footnotes omitted)

³⁴⁰ Panel Report, *EC – Pipe Fittings*, subpara. 6 to para. 7.10. (footnote omitted; emphasis added)

³⁴¹ Appellate Body Report, *EC – Bananas III*, para. 141. (emphasis added)

expand them as New Zealand has attempted to do. The dictionary definition of “clarification” is: “the action of making clear or plain to the understanding; removal of complexity, ambiguity, or obscurity”.³⁴² New Zealand’s attempted *addition* of grounds for its Article 5.6 claim cannot constitute a removal of complexity or ambiguity. Indeed, New Zealand was unambiguous in its first written submission in stating which arguments it would pursue for its Article 5.6 claim, as follows: “New Zealand will restrict its consideration to the alternative measure of restricting imports to mature, symptomless apple fruit” for fire blight and European canker,³⁴³ and the “single measure” of a 600-unit inspection would be appropriate for ALCM.³⁴⁴ New Zealand’s purported expansion of its claims since its first written submission have only acted to *obscure* what the Panel should properly focus on, rather than “clarify”.

207. In respect of the case extracts quoted by New Zealand above, Australia notes that both the Appellate Body in *EC – Bananas III* and the panel in *Japan – Apples* were referring to whether particular *claims* were within the panel’s *terms of reference*. The point being made by both the Appellate Body and that panel was that if a claim is part of a panel’s terms of reference by reason of proper identification in a panel request, then a complainant’s failure to raise it in its first written submission does not mean that the panel is precluded from ruling on it if the complainant raises it again later. That is quite different from the present situation. New Zealand’s panel request identifies the bare minimum in respect of its Article 5.6 claim: merely that all of the measures at issue are inconsistent with Article 5.6. It is *that* claim which remains part of the Panel’s terms of reference. The panel request said nothing about the potential “alternative” measures relevant to New Zealand’s Article 5.6 claim, and accordingly New Zealand cannot claim that Australia is attempting to limit the Panel’s terms of reference in a situation similar to *EC – Bananas* or *Japan – Apples*.

208. Identification of a potential “alternative” measure is not something which is incidental to a claim under Article 5.6. It is the key requirement of a complainant to do so: a measure may only be found inconsistent with Article 5.6 if an appropriate alternative measure is identified. The working procedures for the Panel are clear in requiring that “Parties shall submit all factual evidence to the Panel as early as possible and no later than during the first substantive

³⁴² *The Shorter Oxford English Dictionary* (Oxford University Press, 6th edition). (emphasis added)

³⁴³ New Zealand’s first written submission, paras. 4.490, 4.491. (emphasis added)

³⁴⁴ New Zealand’s first written submission, para. 4.513.

meeting”.³⁴⁵ Therefore, New Zealand was required to provide argument and evidence in support of its contention that particular “alternative” measures would be appropriate (within the meaning of footnote 3 to Article 5.6) in the first stage of these proceedings. Although New Zealand mentioned some other potential alternative measures in its first written submission, it explicitly declined the opportunity to pursue those alternatives.³⁴⁶ Accordingly, Australia has not sought to address potential New Zealand arguments on potential additional “alternative” measures.

209. Australia further notes that, even though New Zealand has attempted to introduce further “alternative” measures for the Panel’s consideration, it has not attempted to substantiate how those measures meet the criteria set out in footnote 3 to Article 5.6. It has attempted to do so only in relation to “mature, symptomless apples” and a 600-unit inspection.

210. If the Panel were to consider any potential “alternative” measures other than “mature, symptomless apples” for fire blight and European canker, and a 600-unit inspection for ALCM, Australia submits that such would both violate its due process rights and would amount to a legal error.

2. New Zealand has not pursued “retail ready” as a potential alternative measure

211. Australia has explained above why the Panel should not consider any other “alternative” measures other than “mature, symptomless apples” and a 600-unit inspection.

212. However, New Zealand now asserts:

Contrary to Australia’s claims, New Zealand has identified a retail ready requirement as an alternative to Australia’s measures pursuant to Article 5.6. See paragraph 4.490 of New Zealand’s first written submission and paragraph 2.894 of New Zealand’s second written submission.³⁴⁷

As directed by New Zealand, Australia has checked the relevant paragraphs of New Zealand’s previous submissions. In paragraph 4.490 of its first written submission, New Zealand made the following statement:

With regard to fire blight, alternative measures that would also be reasonably available, be less trade restrictive and achieve Australia’s ALOP include restricting apple fruit imports to those fruit that have been cold stored, or

³⁴⁵ Working Procedures for the Panel, para. 11.

³⁴⁶ See: New Zealand’s first written submission, paras. 4.490, 4.491.

³⁴⁷ New Zealand’s responses to the Panel’s questions after the second meeting, para. 196.

limiting imports to apples that are “retail-ready packaged fruit.” Such measures have little justification, however, as they would be based on an assumption that mature, symptomless apples could be a vector for the transmission of fire blight. Since there is no scientific basis for any such assumption, New Zealand will restrict its consideration to the alternative measure of restricting imports to mature, symptomless apple fruit.³⁴⁸

213. Clearly, the above statement was made in the context of measures for *fire blight* alone. New Zealand misrepresented the argument it had made when it asserted that it had identified “retail ready” as an alternative for ALCM (or European canker) in the following extract from paragraph 2.894 of its rebuttal submission:

In its first written submission, New Zealand also identified various other alternative measures for fire blight, European canker and ALCM that would meet the requirements of Article 5.6, but which would still be more trade restrictive than required. A measure limiting imports to apples that are retail-ready packaged fruit was identified. Indeed, as noted above in respect of Article 5.1 and as confirmed by the experts, such a measure would effectively exclude the primary pathway for ALCM identified by the IRA.³⁴⁹

214. In respect of New Zealand’s attempt to rely on the experts’ comments in respect of a potential “retail ready” measure for ALCM, Australia refers the Panel to its recent response to a question from the Panel which explained that a Panel may only consider “alternative” measures which have been identified and substantiated by the complainant.³⁵⁰

215. In response to New Zealand’s assertion that, “had the IRA come to an objectively justifiable conclusion that a retail ready measure was necessary, New Zealand may have accepted this”,³⁵¹ Australia notes again that New Zealand explicitly chose not to pursue a potential claim in the alternative that limiting exports to “retail ready” apples would be an appropriate “alternative” measure under Article 5.6.

³⁴⁸ New Zealand’s first written submission, para. 4.490. (emphasis added)

³⁴⁹ New Zealand’s second written submission, para. 2.894. (footnotes omitted; emphasis added)

³⁵⁰ Australia’s responses to the Panel’s and New Zealand’s questions after the second meeting, paras. 529-535.

³⁵¹ New Zealand’s responses to the Panel’s questions after the first meeting, para. 199.

B. ARTICLE 5.5

216. Australia recalls its due process concerns regarding New Zealand's failure to provide Australia with adequate notice of its claims under Articles 2.3 and 5.5 in its panel request.³⁵² Australia requests that the Panel give this issue significant attention prior to any consideration of the substantive matters under Article 5.5.

217. The trade figures for pear (and quince) exports from Japan to Australia provided by New Zealand³⁵³ substantiate the trade figures previously provided by Australia.³⁵⁴ As Australia has explained,³⁵⁵ the clear difference in the volumes of trade between Japanese nashi pears and New Zealand apples has a fundamental effect on the risk associated with each product.

218. Australia notes that New Zealand failed to directly address Australia's Question 16 to New Zealand after the second meeting.³⁵⁶ That is, New Zealand did not address the fact that the geographic area relevant to the risk associated with the importation of nashi pears to Australia is Tottori prefecture – not the whole of Japan. The fact is that Japanese Erwinia is not, and never has been, a pest of direct concern in relation to trade in Japanese nashi pears to Australia.

C. UNDUE DELAY

219. New Zealand's responses to the Panel's questions after the second meeting provide a number of excuses as to why it failed to identify the "IRA process" as a measure at issue in its panel request. Without acknowledging the consequences of its own failure to initiate a WTO complaint while the IRA process may still have been an "existing" measure, New Zealand has purported to draw support from the Appellate Body's reasoning in *EC – Selected Customs Matters*.³⁵⁷ As Australia has previously explained,³⁵⁸ nothing about that decision legitimises

³⁵² See: Australia's first written submission, paras. 971-973; Australia's responses to the Panel's questions after the first meeting, q. 128; Australia's rebuttal submission, paras. 163-170.

³⁵³ New Zealand's responses to the Panel's questions after the second meeting, Annex 2.

³⁵⁴ **Exhibit AUS-113:** AQIS (2008).

³⁵⁵ Australia's first written submission, para. 995; Australia's responses to the Panel's questions after the second meeting, paras. 522-527; Australia's comments on the experts' replies, para. 268.

³⁵⁶ New Zealand's responses to Australia's questions after the second meeting, para. 39.

³⁵⁷ New Zealand's responses to Australia's questions after the second meeting, para. 40

³⁵⁸ Australia's responses to the Panel's questions after the second meeting, para. 546

New Zealand’s failure to give Australia appropriate notice of its undue delay claim in its panel request. Failure to do so means that New Zealand’s undue delay claim in relation to the IRA process is not within the Panel’s terms of references.

220. In continuing its argument that the IRA process could not be challenged as a measure at issue because it had ceased to exist, New Zealand refers to the following Appellate Body extract in *EC – Selected Customs Matters*:

The term “specific measures at issue” in Article 6.2 suggests that, as a general rule, the measures included in a panel’s terms of reference must be measures that are in existence at the time of the establishment of the panel.

This general rule, however, is qualified by at least two exceptions. First, in *Chile – Price Band System*, the Appellate Body held that a panel has the authority to examine a legal instrument enacted after the establishment of the panel that amends a measure identified in the panel request, provided that the amendment does not change the essence of the identified measure. Secondly, in *US – Upland Cotton*, the Appellate Body held that panels are allowed to examine a measure “whose legislative basis has expired, but whose effects are alleged to be impairing the benefits accruing to the requesting Member under a covered agreement” at the time of the establishment of the panel.³⁵⁹

New Zealand then goes on to argue that because neither of these exceptions apply in the present dispute,³⁶⁰ the IRA process cannot be challenged as a “measure” in this dispute.

221. New Zealand’s reliance on the Appellate Body’s guidance is completely misguided for two reasons. First, New Zealand seems to consider that the Appellate Body guidance provides it with an excuse for not having identified the subject of its undue delay claim in its panel request. However, the Appellate Body was not talking about “exceptions” to the rule that a measure at issue must be identified in a panel request. The “exceptions” relate to whether a panel may make rulings on a particular measure. In the present case, the issue of whether the panel can actually make a ruling on the “IRA process” does not arise because the “IRA process” does not fall within the Panel’s terms of reference because it is not identified in the panel request.

222. Secondly, even if it can be argued that neither of those exceptions apply in this case, New Zealand ignores the clear statement from the Appellate Body that the “general rule ... is

³⁵⁹ Appellate Body Report, *EC – Selected Customs Matters*, para. 184 (footnotes omitted.); cited in New Zealand’s responses to Australia’s questions after the second meeting, para. 40.

³⁶⁰ New Zealand’s responses to Australia’s questions after the second meeting, paras. 15-16.

qualified by *at least* two exceptions”.³⁶¹ Accordingly, it is clear that the category of “exceptions” is not closed, and is not limited to the two exceptions identified in *EC – Selected Customs Matters*.³⁶² Moreover, the Appellate Body approved the panel’s statement in that dispute that “a panel may also be competent to make findings and make recommendations on measures that have expired”.³⁶³

223. In this regard, Australia notes that New Zealand has not addressed Australia’s question regarding the guidance in *US – Certain EC Products*,³⁶⁴ a decision which also indicated that measures that are no longer in existence can be examined by panels.³⁶⁵ Similarly, New Zealand has failed to directly address the substance of Australia’s question 18 regarding the Appellate Body guidance in *US – Corrosion Resistant Steel Sunset Review*³⁶⁶ and *EC – Selected Customs Matters*. In sum, New Zealand’s latest attempts to argue that the IRA process did not need to be identified in its panel request must fail.

224. New Zealand also attempts to rely upon the panel report in *EC – Biotech Products* to argue that Australia blurs the distinction between measures and claims.³⁶⁷ Australia recalls that it has previously explained the irrelevancy of *EC – Biotech Products* to the present dispute given the clarity of the panel requests in *EC – Biotech Products*.³⁶⁸

225. In relation to New Zealand’s claim that Australia is blurring the concept of “claim” and “measure”³⁶⁹, Australia notes that the relevant New Zealand “claim” and the “measure” under Annex C(1) are clear. Based on the Appellate Body guidance cited previously,³⁷⁰ the IRA process is clearly the “measure” that New Zealand seeks to challenge. New Zealand has stated that its *claim* under Annex C(1) is that Australia failed to undertake and complete the

³⁶¹ Appellate Body Report, *EC – Selected Customs Matters*, para. 184. (emphasis added)

³⁶² In that dispute, the Appellate Body had no reason to test there were any exceptions existed beyond those identified. Appellate Body Report, *EC – Selected Customs Matters*, para. 187.

³⁶³ Panel Report, *EC – Selected Customs Matters*, para. 7.36; Appellate Body Report, *EC – Selected Customs Matters*, para. 184. (emphasis added)

³⁶⁴ New Zealand’s responses to Australia’s questions after the second meeting, paras. 15-17.

³⁶⁵ Appellate Body Report, *US – Certain EC Products*, paras. 82.

³⁶⁶ Appellate Body Report, *US – Corrosion Resistant Steel Sunset Review*, para. 81.

³⁶⁷ New Zealand’s responses to Australia’s questions after the second meeting, paras. 19-20.

³⁶⁸ Australia’s rebuttal submission, paras. 205-207.

³⁶⁹ New Zealand’s responses to Australia’s questions after the second meeting, para. 45.

³⁷⁰ Australia’s responses to the Panel’s questions after the second meeting, paras. 542-544.

IRA process without undue delay.³⁷¹ Accordingly, Australia is not blurring the distinction between “measures” and “claims” as New Zealand argues.

226. New Zealand also argues that Australia is suggesting that New Zealand should have provided arguments in its panel request regarding its undue delay claim.³⁷² Again, New Zealand is mistaken. New Zealand’s claim is that Australia failed to undertake and complete the IRA process without undue delay.³⁷³ An argument in support of that claim would have been that the IRA process was unduly delayed *because of X*, or *because of Y*. Australia has never suggested that New Zealand needed to provide such an argument in its panel request.

227. In conclusion, neither the IRA process, nor “Australia’s generic approval regime for the approval of fresh fruit and vegetables”, are identified in New Zealand’s panel request. Accordingly, Australia could not have known at the time of New Zealand’s panel request that the subject of New Zealand’s undue delay claim was the “IRA process”. The matter is therefore outside the Panel’s terms of reference. Expiry of a measure that New Zealand has sought to challenge does not excuse it from its obligation under Article 6.2 of the DSU to identify the measures at issue. If New Zealand considered that it could not challenge the IRA process because it had already expired, then it should not have made a claim of undue delay under Article 8 and Annex C(1).

³⁷¹ New Zealand’s opening statement at the first meeting, para. 129.

³⁷² New Zealand’s responses to Australia’s questions after the second meeting, para. 47.

³⁷³ New Zealand’s opening statement at the first meeting, para. 129.