BEFORE THE
WORLD TRADE ORGANIZATION
APPELLATE BODY

Australia – Measures Affecting the Importation of Apples from New Zealand

(AB-2010-2 / DS367)

Appellee Submission of New Zealand

27 September 2010

CASES CITED

Short Title	Full Case Title and Citation
Australia – Salmon	Appellate Body Report, *Australia – Measures Affecting Importation of Salmon*, WT/DS18/AB/R, adopted 6 November 1998, DSR 1998:VIII, 3327.
Australia – Salmon	Panel Report, *Australia – Measures Affecting Importation of Salmon*, WT/DS18/R and Corr.1, adopted 6 November 1998, as modified by Appellate Body Report WT/DS18/AB/R, DSR 1998:VIII, 3407.
Australia – Salmon (Article 21.5 – Canada)	Panel Report, *Australia – Measures Affecting Importation of Salmon – Recourse to Article 21.5 of the DSU by Canada*, WT/DS/18/RW, adopted 20 March 2000, DSR 2000:IV, 2031.
Brazil – Measures Affecting Imports of Retreated Tyres	Appellate Body Report, *Brazil – Measures Affecting Imports of Retreaded Tyres*, WT/DS332/AB/R, adopted 17 December 2007, DSR 2007:IV, 1527.
Canada – Continued Suspension	Appellate Body Report, *Canada – Continued Suspension of Obligations in the EC – Hormones Dispute*, WT/DS321/AB/R, adopted 14 November 2008 *Canada – Continued Suspension*
Canada – Continued Suspension	Panel Report, *Canada – Continued Suspension of Obligations in the EC – Hormones Dispute*, WT/DS321/R, adopted 14 November 2008, as modified by Appellate Body ReportWT/DS321/AB/R
Canada – Periodicals	Appellate Body Report, *Certain Measures Concerning Periodicals*, WT/DS31/AB/R, adopted 30 July 1997, DSR:I, 449.
EC – Approval and Marketing of Biotech Products	Panel Report, *European Communities – Measures Affecting the Approval and Marketing of Biotech Products*, WT/DS291/R, WT/DS292/R, WT/DS293/R, Add. 1 to Add. 9, and Corr.1, adopted 21 November 2006, DSR 2006:III-VIII, 847.
EC – Asbestos	Appellate Body Report, *EC – Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/AB/R, adopted 5 April 2001, DSR 2001:VII, 324
EC – Hormones	Appellate Body Report, *EC – Measures Concerning Meat and Meat Products (Hormones)*, WT/DS26/AB/R, WT/DS48/AB/R, adopted 13 February 1998, DSR 1998:I, 135.
Japan – Apples	Panel Report, *Japan – Measures Affecting the Importation of Apples*, WT/DS245/R, adopted 10 December 2003, upheld by Appellate Body Report WT/DS245/AB/R, DSR 2003:IX, 4481.
US – Carbon Steel	Appellate Body Report, *United States –Countervailing Duties on Certain Corrosion-Resistant Carbon Steel Flat Products from Germany*, WT/DS213/AB/R and Corr.1, adopted 19 December 2002, DSR 2002:IX, 3779

US – Continued Suspension	Appellate Body Report, *United States – Continued Suspension of Obligations in the EC – Hormones Dispute*, WT/DS320/AB/R, adopted 14 November 2008
US – Export Restraints	Panel Report, *United States – Measures Treating Exports Restraints as Subsidies*, WT/DS194/R and Corr.2, adopted 23 August 2001, DSR 2001:XI, 5767.
US – Gasoline	Appellate Body Report, *United States – Standards for Reformulated Gasoline and Conventional Gasoline*, WT/DS2/AB/R, adopted 20 May 1996, DSR 1996:I, 3.
US – Wheat Gluten,	Appellate Body Report, *United States – Definitive Safeguard Measures on Imports of Wheat Gluten from the European Communities*, WT/DS/166/AB/R, adopted 19 January 2001, DSR 2001:II, 717.
US – Wool Shirts and Blouses	Appellate Body Report, *United States – Measure Affecting Imports of Woven Wool Shirts and Blouses from India*, WT/DS33/AB/R, adopted 23 May 1997, and Corr.1, DSR 1997:I, 323.

ABBREVIATIONS

ALCM	Apple leafcurling midge
ALOP	Appropriate level of protection
APAL	Apple and Pear Australia Ltd
AQIS	Australian Quarantine and Inspection Service
DSU	Dispute Settlement Understanding
EA	*Erwinia amylovora*
E. amylovora	*Erwinia amylovora*
IPPC	International Plant Protection Convention
IRA	*Final Import Risk Analysis Report for Apples from New Zealand,* November 2006
ISPM	International Standards for Phytosanitary Measures (International Plant Protection Convention)
N. galligena	*Neonectria galligena*
PEES	Probability of entry, establishment and spread
SPS	Sanitary and phytosanitary
SPS Agreement	WTO Agreement on the Application of Sanitary and Phytosanitary Measures
VCLT	Vienna Convention on the Law of Treaties
WTO	World Trade Organization

I. INTRODUCTION

1.1 This appellee submission is filed in accordance with Rule 22 of the *Working Procedures for Appellate Review*.[1] It responds to the appellant submission of Australia appealing the decision of the Panel in *Australia – Measures Affecting the Importation of Apples from New Zealand*.[2]

1.2 In its appellant submission Australia claims that the Panel:

a) erred in its interpretation and application of the definition of "sanitary or phytosanitary measure" and thus its finding that the measures identified by New Zealand were individual measures is in error;

b) erred in its finding of what constitutes a risk assessment and hence in its conclusions that there had been an infringement of Articles 2.2, 5.1 and 5.2 of the SPS Agreement in respect of fire blight and apple leaf-curling midge (ALCM);

c) failed in the performance of its duty under Article 11 of the DSU to make an "objective assessment of the matter" and hence was in error in its finding that the measures in relation to fire blight and ACLM are inconsistent with the requirements of Articles 2.2, 5.1 and 5.2; and

d) erred in its finding that the measures imposed by Australia infringed the requirements of Article 5.6 because it misinterpreted and misapplied that provision and misapplied the rules relating to burden of proof, and failed to make an "objective assessment of the matter" as required by Article 11 of the DSU.

1.3 As New Zealand will demonstrate, Australia's arguments in this appeal have no merit. The Panel's findings and recommendations on the issues raised in this appeal were correct and were based on sound legal interpretations of the SPS Agreement.

[1] WT/AB/WP/5.

[2] Referred to, hereafter, as "Panel Report".

A. THE FACTS

1.4 In its appellant submission, Australia sets out some of the facts that are relevant to this dispute, including a description of the Australian Biosecurity Regime, the process relating to the import risk assessment in dispute ("the IRA") and the methodology allegedly used in that process. While some of the matters mentioned under the heading "Facts" are undisputed facts, others are assertions and claims, and at times what is significant is omitted from Australia's account of the facts. New Zealand therefore takes this opportunity to place this appeal within the broader context of the dispute over the importation into Australia of apples from New Zealand and to draw attention to some of the matters that Australia now claims to be "facts" in this dispute.

1.5 Australia notes that the determination of the Director of Animal and Plant Quarantine that established the measures that are the subject of this dispute was made on 27 March 2007. What Australia did not mention is that the import risk analysis that ultimately resulted in the IRA was initiated in January 1999, some eight years before the March 2007 determination was finally made, and that several versions of an import risk analysis were produced and then revised.[3] The appellant submission describes the IRA process as one of "technical pest risk assessment" and "pest risk management".[4] What it fails to describe is the highly politicised context in which the IRA process occurred, including two Senate inquiries and public statements by political leaders, including the then Prime Minister of Australia, opposing the entry of New Zealand apples into Australia.[5]

1.6 The political process and the risk assessment process were interlinked. The "semi-quantitative analysis" adopted for the first time in the 2004 draft version of the IRA was, as the Panel points out, a result of the IRA Team "responding to issues raised

[3] Panel Report, paras. 2.31-2.32. The Panel also noted, at para. 2.30 of its Report, that, "Australia banned the importation of New Zealand apples in 1921 following the entry and establishment of fire blight in Auckland in 1919. In 1986, 1989, and 1995 New Zealand applied for access to the Australian market. In each case its application was rejected."

[4] Appellant submission of Australia, para. 23.

[5] New Zealand's first written submission, paras. 4.554-4.558 and 3.12-3.19 and 3.27-3.30.

by some stakeholders".[6] While Australia states in its appellant submission that a semi-quantitative methodology was chosen in preference to a qualitative one "to reinforce the transparency and objectivity of the analysis wherever possible",[7] in fact, the recommendation to adopt a quantitative approach came from the first Senate inquiry into the apples risk assessment process in July 2001.[8]

1.7 The notion that the IRA process was a "technical pest risk assessment" is also belied by the fact that one of the members of the "IRA Team" was "an owner and manager of an apple production business in Australia."[9] Since the IRA Team operated by consensus,[10] significant influence on the question of the level of risk posed by apples from New Zealand was vested in a prominent member of the Australian apple industry and former Chairman of Apple and Pear Australia Ltd (APAL), an industry group that opposed the importation into Australia of apples from New Zealand and filed an amicus brief in this case to that effect.[11] The inclusion of an industry representative on the IRA Team was again the result of a recommendation by an Australian Senate Committee, this time calling for more direct involvement by domestic stakeholders.[12] All of this demonstrates that the IRA process was far from an objective "technical pest risk assessment" as Australia's appellant submission seeks to imply.

1.8 The delay and the political intermixing in what Australia claims was a "process of technical pest assessment" was at the heart of New Zealand's claim under Article 8 and Annex C(1)(a) of the SPS Agreement which the Panel found to be beyond its terms of reference. The systemic importance for Members to be able to ensure that risk assessment processes are objective and are conducted without delay led New Zealand to

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[6] Panel Report, para. 2.61-2.62.

[7] Appellant submission of Australia, para. 41.

[8] New Zealand's first written submission, para. 3.19-3.21.

[9] Panel Report, para. 2.28.

[10] Panel Report, para. 2.67.

[11] See, Communication from *Apple and Pear Australia Ltd* to the Panel, 26 August 2008, p. 4, "By reason of the expert analysis undertaken by its expert technical working group the Australian pome fruit industry maintains that New Zealand, due to the unacceptable level of risk, should not have access to the Australian market for apples."

[12] New Zealand's first written submission, paras. 3.18-3.22.

challenge the determination of the Panel with respect to Article 8 and Annex C(1)(a). This is dealt with in New Zealand's other appellant submission of 15 September 2010.

1.9 Australia's section on "Facts" also contains matters that are not facts; rather they are arguments of Australia presented as if they were facts. In paragraph 24 of its appellant submission, Australia identifies the "principal measures" for both fire blight and apple leaf curling midge (ALCM). The point is repeated in paragraph 52 where the measures are not even identified as "principal". They become simply "two measures" for fire blight and "one measure" for ALCM. Of course, this is not fact at all. New Zealand challenged 16 measures, and the Panel upheld New Zealand's claim.[13] It is no more than historical revisionism for Australia to assert as fact what the Panel decided was not fact at all, but rather a discredited Australian argument.

1.10 Likewise, in describing fire blight Australia states as if it were a fact that the disease "can be carried by insects, wind, rain and pruning tools or, as an epiphytic infestation on the surface of apple fruit and enters a susceptible host through natural openings or wounds."[14] Yet the Panel found no scientific evidence to support Australia's view that mature, symptomless apples could provide a pathway for the introduction of the disease. Australia also overstates or mis-states a number of matters relating to ALCM.[15]

1.11 A further example of Australia citing as facts things that are not so, is found in the statement in its appellant submission that the IRA had recommended "the least trade–

[13] As recorded by the Panel, during the Panel proceedings the Parties advised the Panel that they had reached agreement with respect to one of the 17 requirements originally identified in New Zealand's Panel request, following Australia's confirmation that it does not impose such a requirement. The Panel went on to consider the remaining 16 measures at issue. See Panel Report, para. 2.96. Accordingly, New Zealand will refer to the 16 remaining measures in this appellee submission.

[14] Appellant submission of Australia, para. 31.

[15] For example, Australia asserts that leaf damage caused by ALCM "can sometimes facilitate infections by pathogens such as fire blight" (appellant submission of Australia, para. 32). This statement implies a causal relationship between ALCM and fire blight infections but, as the IRA states: "…there is currently no evidence to implicate the adult midge as a vector for dissemination of *E. amylovora*" (IRA, Part B, p. 158). Australia asserts at para. 32 of its appellant submission that "ALCM may also cause distortions on the surface of fruit." However, in his expert testimony, Dr Cross described such effects as "rare" and "extraordinary" (compilation of expert replies, para. 560). Australia also asserts that "larvae can become caught on the apple fruit, where they will pupate" (appellant submission of Australia, para. 32), when in fact the principal pupation site for ALCM is, as set out in the Panel Report at para. 2.22, below the surface of the ground.

restrictive measures, or combination of measures, found to reduce the risk to "very low risk".[16] But, that is precisely what the Panel found in its analysis of Article 5.6 that the IRA had not done.[17] Again, Australia seeks to present its arguments in this appeal as facts.

1.12 As New Zealand has pointed out, Australia's treatment of the "facts" in this dispute is frequently partial and often in dispute. Some of these matters have been mentioned here; others will be referred to later in this appellee submission. The Panel rehearsed the relevant facts in its Report and it is the facts as found by the Panel that govern in this case. This includes the broader context in which this dispute has taken place, which is omitted from Australia's appellant submission. The Appellate Body should therefore ignore Australia's attempt to pass by critical elements in this case or to refashion the facts to suit its argument in this appeal.

B. AUSTRALIA'S APPROACH IN THIS APPEAL

1.13 Before turning to the specific claims made by Australia and providing a rebuttal of them, New Zealand wishes to place the arguments Australia has made in this appeal in perspective.

1.14 Australia's attempts to defend the IRA in this dispute have been characterised by its shifting efforts to find a way to avoid the central requirement in the SPS Agreement that risk assessments must be based on sufficient scientific evidence, and to shield the IRA from review. Before the Panel, this was manifested in a number of ways. Instead of having to justify the 16 measures imposed by the IRA on the importation of apples from New Zealand, Australia invented a distinction between "principal" and "ancillary" measures. The former were to be treated as SPS measures and therefore subject to the disciplines of the SPS Agreement; the latter were not to be tested individually against the

[16] Appellant submission of Australia, para. 51.

[17] Panel Report, para. 7.1265.

standards required by the SPS Agreement.[18] This meant that Australia wanted the Panel to review only two measures relating to fire blight and one measure relating to ALCM.

1.15 But even in respect of the measures that Australia considered should be subject to the disciplines of the SPS Agreement, the scope of that review was to be limited. In Australia's view, the Panel had to give "considerable deference" to the IRA in its assessment of the scientific basis of the measures that were being imposed.[19] Although in the course of the proceedings before the Panel Australia drew back from its use of the term "considerable deference"[20] it sought to interpret *US/Canada - Continued Suspension* as a new departure in the law justifying a deferential approach to reviewing risk assessments.[21]

1.16 The Panel referred to the standard of review set out in Article 11 of the DSU and found enough guidance in *US/Canada - Continued Suspension* to avoid any need to articulate a particular standard of review that would depart from that guidance.[22] The Panel then applied this standard of review in its assessment of the IRA. Just as the Panel had rejected Australia's attempt to limit review by distinguishing between principal and ancillary measures, so too did the Panel reject any notion that considerable or particular deference should be accorded to the IRA.[23]

1.17 In this appeal, Australia has changed the language it uses to express its position, but the ultimate objective of shielding the IRA as far as possible from panel review remains intact. With regard to Australia's arguments concerning the definition of "SPS measures", while the language of principal and ancillary measures has been modified, and Australia's unwarranted reliance on *US - Export Restraints* has completely disappeared, the substance of the argument remains the same.

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[18] Panel Report, paras. 7.105-7.107 and Australia's first written submission para. 141.

[19] Panel Report, para. 7.217 and Australia's first written submission, para. 191.

[20] Panel Report, paras. 7.218 and 7.226.

[21] See New Zealand's opening statement for second substantive meeting, paras. 18 to 24.

[22] Panel Report, paras. 7.223 – 7.226.

[23] Panel Report, para. 7.226.

1.18 With respect to Article 5.1, Australia asserts that the Panel should have ignored the guidance provided in *US/Canada - Continued Suspension* and asked itself a different set of questions from those set out by the Appellate Body in that case.[24] The questions Australia now proposes do not appear in the SPS Agreement or in any jurisprudence. Australia seeks to replace the third criterion set out in *US/Canada - Continued Suspension* – whether the reasoning articulated on the basis of the scientific evidence is objective and coherent – with a new test, whether the "expert judgement" of the risk assessor is "within a range that could be considered legitimate by the standards of the scientific community".[25] Moreover, Australia wishes to qualify this third criterion further by providing that even where a risk assessment is based on expert judgement that falls outside the range of what could be considered legitimate by the standards of the scientific community, it must also "be such as to undermine confidence in the risk assessment as a whole."[26] Once again, the objective is patent: as far as possible, risk assessments are to be shielded from panel review.

1.19 In fact, the Panel did no more in this case than ask itself the correct questions, based on the guidance provided by the Appellate Body in *US/Canada - Continued Suspension*. In particular, under the third criterion, the Panel assessed whether the reasoning articulated on the basis of the scientific evidence is objective and coherent.[27] In other words, it reviewed whether the particular conclusions drawn by the Member assessing the risk found sufficient support in the scientific evidence relied upon. The third criterion in *US/Canada - Continued Suspension* is designed to ensure that there is a sufficient relationship between the scientific evidence and the reasoning and conclusions in a risk assessment, such that a risk assessment may be considered "objectively justifiable".[28] Australia's alternative test, which focuses on whether "expert judgement" is "within a range that could be considered legitimate by the standards of the scientific

[24] Appellant submission of Australia, para. 78.

[25] See for example, appellant submission of Australia, para. 78.

[26] Appellant submission of Australia, para. 78.

[27] See, for example, Panel Report, paras. 7.259, 7.275, 7.290, 7.320, 7.342, 7.357, 7.403, 7.413, 7.417, 7.420, 7.447-7.470, 7.508, 7.805-7.806, 7.811-7.812, 7.840-7.841, 7.854-7.855, 7.866-7.867, 7.871.

[28] Appellate Body Report, *US/Canada - Continued Suspension*, paras. 590 and 591.

community", does not address this relationship. Australia provides no convincing explanation of why this alternative test should be used in place of that set out by the Appellate Body, or how it ensures that the crucial linkage between the scientific evidence relied upon and the conclusions reached is maintained.

1.20 Australia revives two other arguments in respect of Article 5.1 – arguments that were considered and rightly rejected by the Panel. The first is that only "conclusions ultimately reached" in a risk assessment can be reviewed by a panel,[29] with the effect that the vast majority of the IRA would be shielded from the obligations of the SPS Agreement. Moreover, this overlooks the fact that there is no independent scientific justification in the IRA for the "conclusions ultimately reached"; under the Australian methodology "conclusions ultimately reached" are nothing more than an aggregation of all of the "intermediate steps" of the analysis.

1.21 The second argument, somewhat at odds with the first, is that the Panel should have assessed the materiality of each error at each intermediate step, in order to determine whether that error was in itself such "as to undermine 'reasonable confidence' in the assessment as a whole."[30] Apart from the fact that this argument overlooks the cumulative effect of the numerous flaws in the IRA, it is not clear how a Panel is to make the assessments now requested by Australia without conducting a *de novo* review.

1.22 Before the Panel, Australia initially sought to justify the IRA on the basis that it was relying on divergent scientific evidence.[31] Following confirmation by the experts advising the Panel that there is no credible divergent scientific evidence with which to defend the IRA, Australia then sought to find shelter for the IRA in the assertion that "expert judgement" had been applied. However, uncertainty and expert judgement are inherent in conducting risk assessments. This was well known to the framers of the SPS Agreement, which provides a framework for dealing with these matters. Simply asserting

[29] Appellant submission of Australia, para. 76.

[30] Appellant submission of Australia, para. 77.

[31] Panel Report, paras. 4.349-4.350, 4.350, 4.377, 4.379 and 4.431.

"scientific uncertainty" and "expert judgement" does not free WTO Members from their obligations under the SPS Agreement or diminish the force of those obligations.

1.23 Moreover, Australia overstates the degree of scientific uncertainty present in the current case (and therefore the degree to which "expert judgement" was required), and understates the obligations that apply to the exercise of that "expert judgement". As is evident from New Zealand's submissions before the Panel, the statements of the experts assisting the Panel, and the Panel Report itself, the situation is clear. The IRA overstates the risk and is not objectively justifiable. In this last ditch effort to defend the IRA, Australia is forced at times to interpret *US/Canada - Continued Suspension* in a way that would require nothing more than proof that expert judgement has been exercised.

1.24 It is also important to consider the reality of the "expert judgement" that, Australia now claims, is the basis of the IRA. The "IRA Team", which functioned on the basis of consensus, included a prominent member of Australia's apple industry[32] and thus someone with a direct interest in the outcome of the process. The IRA did not describe any recognised processes for the elicitation and combination of expert opinion. The IRA Team made its assessment on the basis of probability intervals that were imported from the generic Biosecurity Australia *2001 Draft Guidelines for Import Risk Analysis* with no consideration as to whether such intervals were appropriate in the context of an IRA dealing with a commodity (apples) traded in the tens of millions. And these probability intervals were then applied in the vast majority of instances, without variation. The IRA employed a probability distribution to model events of the lowest ("negligible") likelihood that included and heavily favoured values that significantly overestimated the risk.[33]

1.25 And, more fundamentally, what was lacking was any indication of a relationship between the result of the application of this "expert judgement" and the scientific evidence on which that judgement was allegedly based. And that is what the Panel said

[32] Panel Report, paras. 2.28 and 2.67.

[33] Panel Report, paras. 7.496 and 7.508.

had to be shown.[34] It is not sufficient to simply claim "expert judgement". In accordance with the third criterion of *US/Canada – Continued Suspension*, that expert judgement must be shown to be objective and coherent and exhibit a sufficient relationship with the evidence on which it was based.

1.26 It is of course, not surprising that the IRA was unable to show such a link. The scientific evidence in support of the IRA's conclusions either did not exist or went in the opposite direction from the conclusions that the IRA reached. Indeed, in respect of fire blight, the scientific evidence was essentially unchanged from that considered in *Japan – Apples*. There was no new scientific evidence which might have suggested a different result. And thus Australia is forced to take refuge in the invocation of "expert judgement" and in rewriting the third criterion in *US/Canada - Continued Suspension* in order to shield that judgement from any assessment of whether it was objective and coherent.

1.27 Australia's rather fraught interpretation of the notion of objective assessment is also illustrated by its invocation of ISPM No. 11 and ISPM No. 2. When it suits the position of Australia, these principles are cited in support.[35] Where they pose difficulties for the Australian position, they are dismissed as a "counsel of perfection".[36] Yet it is hardly a counsel of perfection to suggest that a risk assessment provide some basis for determining how expert judgement was exercised and for reviewing whether there is a sufficient relationship between the judgement reached and the scientific evidence on which it was allegedly based.

1.28 Under its claim that the Panel did not conduct "an objective assessment of the matter" under Article 11 of the DSU, Australia is reduced to relying on a few statements by the experts assisting the Panel taken out of context. Australia is forced to misinterpret and isolate these statements, and ignore the fact (as confirmed by the Panel) that the

[34] Panel Report, para. 7.440.

[35] See, for example, appellant submission of Australia, paras. 74, 77, 96 and 97.

[36] See, for example, appellant submission of Australia, para. 97.

totality of the experts' statements, including those by the experts now relied on by Australia, overwhelmingly support New Zealand's claims.

1.29 Likewise, under Australia's claims in relation to Article 5.6, Australia ignores large parts of the Panel's reasoning, mischaracterises those sections of the Panel Report that it does refer to, and proposes an approach that would effectively require panels assessing claims under Article 5.6 to conduct a *de novo* assessment of the risk.

1.30 In short, Australia's arguments in this appeal constitute little more than old wine in new bottles. The rhetoric has changed, but the underlying fallacies in the Australian position remain.

II. DETAILED REBUTTAL OF AUSTRALIA'S ARGUMENTS ON APPEAL

A. MISINTERPRETATION OF ANNEX A(1) TO THE SPS AGREEMENT: GROUND A

1. The Panel did not misinterpret Annex A(1) of the SPS Agreement

2.1 Australia argues that the Panel erred in reaching the conclusion that the 16 measures at issue, both as a whole and individually, constitute SPS measures within the meaning of the definition in Annex A(1).

2.2 In its submission, Australia revives its flawed distinction between "ancillary" and "principal" measures, and its argument that ancillary measures are not in themselves "SPS measures". Although Australia has jettisoned its reliance on *US – Export Restraints*, modified its terminology (to refer to "principal and operative mechanisms" and "ancillary administrative processes or procedures"), and proposed new tests and requirements not argued before the Panel, its underlying point remains the same: ancillary measures are not in themselves SPS measures, and do not need to individually comply with the SPS Agreement. The Panel did not "see the relevance or validity" of Australia's argument, and rejected it as an attempt to "carve out ancillary measures from the definition of SPS measures, and to limit their review under the SPS Agreement to a

joint review with other measures."[37] New Zealand submits that Australia's arguments on appeal should be similarly rejected.

(a) Australia's proposed "applicable legal principles" are flawed and should be rejected

2.3 In setting out what it considers are the "applicable legal principles" under the definition of "SPS measure" in Annex A(1), Australia makes four points:

a) to fall within the first paragraph of Annex A(1) a "thing" being examined must have three characteristics. It must: be a "measure"; be "applied"; and "protect" against certain risks;[38]

b) the second paragraph of the definition in Annex A(1) "does nothing to undermine" the first paragraph of the definition;[39]

c) the identification of SPS measures requires a "practical and purposive" evaluation, and such evaluation will exclude from the scope of SPS measures "administrative processes or procedures" of an "ancillary nature";[40] and

d) a "practical and purposive" approach is consistent with ISPM No.5[41]

2.4 Points (a) and (b) relate closely to Australia's allegations of "Panel error" and will be addressed in that context below. New Zealand will respond here to points (c) and (d).

2.5 Australia argues that the "ultimate question", which results from a "practical and purposive" interpretation under Annex A(1), is to identify actions that "a Member may

[37] Panel Report, para. 7.175.

[38] Appellant submission of Australia, paras. 56 and 62-64.

[39] Appellant submission of Australia, paras. 57 and 65.

[40] Appellant submission of Australia, para. 58.

[41] Appellant submission of Australia, para. 59.

put into practical operation for the purpose of protecting against some relevant risk".[42] With no reasoning or argumentation, Australia asserts that "[a]ctivities or requirements, such as administrative processes or procedures, which have no operation other than to enhance the efficacy of some active mechanism for protecting animal or plant life or health…should not be identified as separate and discrete SPS measures."[43] According to Australia, this means that "[a]dministrative processes or procedures of that ancillary nature and the mechanisms to which they relate should be identified collectively as amounting to a single composite, or enhanced, SPS measure".[44]

2.6 This "applicable legal principle" put forward by Australia is a mere assertion and has no basis in the SPS Agreement or the jurisprudence. During the Panel proceedings, Australia relied on *US – Export Restraints* to support its claim that ancillary measures cannot, in themselves, constitute SPS measures. The Panel correctly found that such reliance was misguided, and Australia has wisely refrained from making the same argument on appeal. However, Australia fails to provide any new interpretive basis for its claim.

2.7 Australia's new approach is not justified under the rules of treaty interpretation as reflected in the Vienna Convention on the Law of Treaties (VCLT). Article 31(1) of the VCLT requires that the terms of a treaty be interpreted in accordance with their ordinary meaning in their context and in light of the object and purpose of the treaty. The ordinary meaning of "measure" in the SPS Agreement is broad enough to cover procedures and other so-called "ancillary measures" and this interpretation is consistent with the SPS Agreement's object and purpose which includes ensuring that measures necessary to protect human, animal or plant life or health are not applied so as to constitute a disguised restriction on trade.

2.8 Further, there is nothing in the words of the SPS Agreement to suggest that the term "measure" be narrowed to exclude "activities or requirements, such as

[42] Appellant submission of Australia, para. 58.

[43] Appellant submission of Australia, para. 58.

[44] Appellant submission of Australia, para. 58.

administrative processes or procedures, which have no operation other than to enhance the efficacy of some active mechanism for protecting animal or plant life or health".[45] Rather, the definition clearly provides that SPS measures are "any" measures applied to protect against SPS risks. Even where measures can be characterised as "enhancing the efficacy of some active mechanism", such measures are aimed at protecting against alleged SPS risks because their purpose is to ensure more effective protection.

2.9 In addressing these issues, and Australia's "principal/ancillary measure" distinction in particular, the Panel noted:

> Annex A(1) does not refer to ancillary measures or spell out any such carve-out. The criteria advanced by Australia for assessing whether the 16 measures are ancillary have not been identified specifically in previous rulings by panels or the Appellate Body on Annex A(1) of the SPS Agreement.[46]

2.10 Australia's entire justification for such a radical departure from the text of the SPS Agreement appears to consist of two arguments. The first is that a "different approach" to that suggested by Australia would place an unreasonable burden on risk assessors.[47] The second is that ISPM No. 5 supports its interpretation.[48] Both arguments should be rejected.

2.11 Australia argues that to *not* distinguish between principal and ancillary measures "would be potentially to open up every detail of an administrative regime to <u>separate</u> evaluation for compliance, relevantly, with Arts 2.2, 5.1, 5.2 and 5.6 of the SPS Agreement".[49] This argument overlooks two points. First, only SPS measures that "directly or indirectly, affect international trade"[50] are subject to scrutiny under the SPS Agreement, and thus not "every detail" is open "to evaluation". Where an SPS measure

[45] Appellant submission of Australia, para. 58.

[46] Panel Report, para. 7.175.

[47] Appellant submission of Australia, para. 58.

[48] Appellant submission of Australia, para. 59.

[49] Appellant submission of Australia, para. 58.

[50] Article 1 of the SPS Agreement.

does affect trade, it is appropriate that it be evaluated. Second, what is required to "comply" with the SPS Agreement's obligations will depend on the particular circumstances and the nature of the measures at issue. Where measures are closely related to each other, and rely to a significant degree on the same underlying science, this would be relevant in determining whether measures comply with applicable obligations.[51]

2.12 Simply because an SPS measure is "related to" or "supports" another SPS measure does not mean that it cannot impose restrictive and burdensome requirements in its own right. According to Australia, the following requirements should *not* be subject to separate evaluation for compliance under the SPS Agreement: the requirement to disinfect all grading and packing equipment before each packing run; the requirement that all planting stock be intensively examined and treated; and the requirement that AQIS officers be involved in orchard inspections. Yet, as the Panel found, all these measures set out a specific procedure: "each of them prescribes a particular way of doing something, which needs to be followed if New Zealand apples are to be imported into Australia".[52] They are therefore all restrictive and burdensome in their own right and are not simply "details" of an "administrative regime". Australia's attempt to shield such measures from review has important systemic implications and should be rejected.

2.13 Australia also claims that the exclusion of "ancillary" measures from the definition of "SPS measure" is supported by ISPM No. 5 which distinguishes between "phytosanitary measures", and "phytosanitary procedures" which implement phytosanitary measures. The Panel responded directly to this argument, stating that:

> Australia coined these terms ["ancillary" and ""principal"], allegedly based on various ISPMs. Australia refers in particular to the definitions of "phytosanitary measure", "phytosanitary action" and "phytosanitary procedure" in ISPM No. 5. According to Australia, "[w]hile the phytosanitary measure has the purpose to 'prevent' or 'limit', the phytosanitary action and phytosanitary procedure simply *implement* the phytosanitary measure; inspections, tests and surveillance do not 'prevent' or 'limit' the impact of

[51] Indeed, in the current case, the Panel reserved the right "to assess various related measures jointly under specific provisions of the SPS Agreement" (para. 7.187).

[52] Panel Report, para. 7.162.

> quarantine pests unless there are consequences attached to their results." The Panel notes that the SPS Agreement contains no such distinction between phytosanitary measures, actions and procedures. Also, some of the actions and procedures included as examples in the ISPM definitions invoked by Australia, e.g. inspection, testing, quarantine treatments, also appear as examples in the definition of an SPS measure contained in Annex A(1). Further, the Panel notes that the experts have given diverging responses on which of the 16 measures might qualify as ancillary and principal in the light of the SPS Agreement and the ISPM definitions referenced by Australia.[53]

2.14 Australia has not referred to this statement by the Panel in its appellant submission, or pointed to any errors in the Panel's analysis in this regard. New Zealand submits that the Panel has correctly articulated why the definitions in ISPM No. 5 cannot be used to narrow the SPS Agreement's definition of "SPS measure". The SPS Agreement's definition of SPS measure is clear and unambiguous, and does not exclude SPS measures simply because they "support", "enhance" or "implement" other SPS measures.

(b) Australia's alleged "Panel Errors" should be rejected

2.15 New Zealand will address the following specific allegations of error:

a) That the Panel was required, and failed, to ask whether the measures met the three "essential characteristics required by the first paragraph of the definition in Annex A(1)"; and

b) That the Panel incorrectly applied the second part of the definition in Annex A(1) (*nature* and *form*), which does not add anything to the first part of the definition.

[53] Panel Report, para. 7.182.

(i) The Panel properly addressed the requirements of the first paragraph of the Annex A(1) definition

2.16 Australia argues that the Panel failed to ask whether the "putative measures" met the "three essential characteristics" required by the first paragraph of the Annex A(1) definition. According to Australia, to fall within the Annex A(1) definition, "a thing" must have three relevant characteristics: (1) it must be an identifiable measure; (2) the measure must be applied; and (3) the measure must be applied to protect against a specified category of risk.[54] Australia then argues that, in determining whether the measures met these three essential characteristics, the Panel should have asked whether each measure amounted to: (1) a discrete and recognisable action or course of action; (2) that was deployed or put into practical operation; (3) for the purpose of protecting against a specified category of risk.[55]

2.17 However, the Panel approached the issue in accordance with the text of the SPS Agreement and the relevant jurisprudence.[56] Specifically, it considered: first, whether the purposes of the 16 measures correspond with the purposes in subparagraphs (a) to (d) of Annex A(1); and, second, whether the measures correspond to the "form and nature" elements in the second paragraph of Annex A(1).[57] After examining these questions, the Panel answered both in the affirmative. In undertaking this analysis the Panel in fact responded to all of the points that Australia now suggests the Panel should have considered under the first paragraph of Annex A(1). In short, Australia's test not only has no basis in law; it is also unnecessary.

2.18 During the Panel proceedings, Australia did not argue that there were "three characteristics" under the first paragraph of Annex A(1) with the associated requirements that it now puts forth. In fact, Australia accepted before the Panel that all 16 measures at

[54] Appellant submission of Australia, para. 56.

[55] Appellant submission of Australia, para. 63.

[56] Panel Report, paras. 7.116 and 7.117

[57] Panel Report, paras. 7.118 and 7.119. Australia's second written submission, paras. 75-76.

issue were "measures reviewable in dispute settlement."[58] In addition, in its appellant submission, Australia concedes that all 16 measures have an "ultimate purpose that correspond[s] to sub-paragraph (a)" of the SPS Agreement".[59] Based on its own arguments, Australia therefore seems to have accepted that the first and third characteristics have been satisfied. This would seem to reduce Australia's argument on appeal to suggesting that the measures at issue were not "applied" (according to Australia's requirement that they be "deployed or put into practical operation"). Australia did not argue that the measures were not "applied" before the Panel. In any event, as noted below, the Panel's findings clearly confirm not only the existence of "measures" to "protect against a specified category of risk", but also that the measures were "applied".

2.19 While Australia has changed the language of its argument on appeal, the substance of the argument remains essentially the same. Before the Panel, Australia relied on *US – Export Restraints* as a basis for distinguishing "ancillary" and "principal" measures, where the former allegedly did not have a "functional life of their own" or "do something concrete" in their own right.[60] The Panel correctly rejected Australia's reliance on *US – Export Restraints*, finding that it did not address the meaning of SPS measure in the SPS Agreement. The Panel additionally found that:

> [e]ven applying the criteria laid down by the *US – Export Restraints* panel to the 16 measures at issue in this dispute could not result in finding that some of those individual measures do not constitute an instrument with a functional life of their own. In fact, it is clear that each of the 16 measures "do[es] something concrete". As analysed above, each of the 16 measures establishes a requirement for specific action to be followed by New Zealand if it intends to export apples into Australia…a distinct and specific requirement for New Zealand to do something, with a distinct burden specific to compliance with each measure.[61]

[58] Panel Report, para. 7.114: "As shown by the summary of the Parties' arguments, neither Party contests that the 16 measures at issue in this dispute…constitute measures reviewable in WTO dispute settlement."

[59] Appellant submission of Australia, para. 64.

[60] Panel Report, paras. 7.177 - 7.181.

[61] Panel Report, paras. 7.179 and 7.181.

2.20 This statement illustrates that the three characteristics and their associated requirements now identified by Australia on appeal (that is, whether measures involve "some discrete or recognisable course of action" that are "deployed or put into practical operation") which Australia claims the Panel did not address were in fact dealt with by the Panel, partly in the context of rejecting Australia's reliance on US – Export Restraints, and partly in the course of its general analysis of Annex A(1), where it proceeded from considering the purpose of the measures, to considering their nature and form.

2.21 With regard to the term "measure" (or, in Australia's new lexicon, "discrete and recognisable action or course of action"), the Panel confirmed that "each of the 16 measures requires New Zealand or its apple producers, packing houses and traders to do something as a condition for New Zealand apples to have access to the Australian market" (emphasis added).[62] The Panel also found that each of the measures "prescribes a particular way of doing something, which needs to be followed".[63] This "something" and "particular way" constitutes a "discrete and recognizable action or course of action". In addition, the Panel correctly recognised that the term "measure" in the first paragraph of Annex A(1) should be read in light of the second paragraph which identifies measures as including "relevant laws, decrees, regulations, requirements and procedures". The Panel found that the measures at issue may qualify as regulations[64] and that even if they should not be considered "regulations", they "qualify as requirements and procedures".[65]

2.22 Australia's second question, whether the measure was "deployed or put into practical operation"[66] is, in essence, no more than another way of asking whether the measures were "applied". However, as noted above, whether or not the measures were "applied" was not contested by Australia before the Panel, and in any event, the Panel dealt with this issue through its discussion of the status of the measures at issue. In this

[62] Panel Report, para. 7.161.

[63] Panel Report, para. 7.163.

[64] Panel Report, para. 7.158.

[65] Panel Report, para. 7.159.

[66] Appellant submission of Australia, para. 63.

context the Panel concluded that "the measures recommended in the IRA have become part of Australia's applicable and enforceable legal policy for the importation of apples from New Zealand"[67] and that "New Zealand needs to comply with each of the measures in order to export apples to Australia."[68] The measures, therefore, are clearly "deployed or put into practical operation".

2.23 The Panel equally dealt with Australia's third question, relating to the purpose of the measures. The Panel identified the purpose of the 16 measures by assessing whether they correspond to subparagraph (a) of the first paragraph of Annex A(1). The Panel thoroughly analysed the elements in subparagraph (a), looking at the subject ("animal or plant life or health"), geography ("within the territory of the Member"), and risk ("arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms"). The Panel correctly concluded that the 16 measures were "applied to protect against a specified category of risk".[69] Indeed, Australia now appears to concede that all 16 measures have an ultimate purpose that falls within sub-paragraph (a) of the SPS Agreement.[70]

2.24 Therefore, it is clear that the Panel has, in fact, addressed the three issues that Australia claims that it did not address. Australia's appeal in this regard should be rejected.

(ii) The Panel was correct to consider the elements in the second paragraph of Annex A(1)

2.25 Australia alleges two alternative Panel "errors" in its consideration of the second paragraph of Annex A(1). Australia argues that:

> If the Panel was saying in the second step that it was sufficient for a putative "measure" to be an SPS measure that it fall within a category described in the second paragraph of

[67] Panel Report, para. 7.158.

[68] Panel Report, para. 7.161.

[69] Panel Report, para. 7.139.

[70] Appellant submission of Australia, para. 64.

> the definition, then the Panel was clearly wrong: an SPS measure must always meet a description in the first paragraph. If the Panel was not saying that it was sufficient that [sic] a putative "measure" to be an SPS measure that it fall within a category described in the second paragraph of the definition, then the second step in the Panel's reasoning adds nothing to the first.[71]

2.26 Australia's argument is flawed. First, it is clear that the Panel did not treat the second paragraph as setting out elements that in themselves are "sufficient" for determining whether a measure is an SPS measure. At the outset of its analysis, the Panel stated that "purpose, as set out in subparagraphs (a)-(d), *is an essential criterion* for assessing whether a measure amounts to an SPS measure under Annex A(1)".[72] The Panel went on to assess this matter in some detail. The Panel stated that "the form and nature of alleged SPS measures" set out in the second paragraph of Annex A(1) "are relevant" for assessing whether the measures fall within the definition of "SPS measures".[73] The Panel noted that this assessment is "*in addition* to purpose" (emphasis added).[74] Australia's confusion notwithstanding, it is clear that the Panel did not treat the second paragraph as setting out "sufficient" definitional requirements.

2.27 Second, Australia is incorrect to suggest that the Panel's analysis "adds nothing" to its assessment of "purpose". The Panel's analysis confirms that each of the 16 measures at issue corresponds to the "form and nature" elements set out in the second paragraph. In particular, the Panel concluded that the measures are "regulations" or "requirements and procedures",[75] and fall within the examples provided in the last part of the second paragraph of Annex A(1).[76] Australia's claim that the Panel's analysis "adds nothing" is simply incorrect.

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[71] Appellant submission of Australia, para. 65.

[72] Panel Report, para. 7.118 (emphasis added).

[73] Panel Report, para. 7.119.

[74] Panel Report, para. 7.143.

[75] Panel Report, para. 7.153-7.163.

[76] Panel Report, para. 7.164-7.169.

2.28 Effectively, Australia is seeking to read the second paragraph of Annex A(1) out of the SPS Agreement.[77] This is not surprising. The second paragraph of Annex A(1) lists, as examples of SPS measures, the very types of measures that Australia argues are "ancillary" and therefore not in themselves SPS measures. It thus directly contradicts Australia's attempts to carve "ancillary measures" out of the definition of "SPS measure".[78]

2.29 Australia seeks to illustrate its argument by referring to the requirement "that an orchard/block inspection methodology be developed and approved that addresses issues such as…the number of trees to be inspected to meet the efficacy level, and training and certification of inspectors."[79] Australia suggests that "taken alone" this requirement is "meaningless and ineffective to achieve any protection from risk" and that it only has meaning and efficacy in so far as it is ancillary to the measure identified by New Zealand that apples be sourced from areas free from fire blight disease symptoms.[80]

2.30 But Australia's argument is beside the point. An SPS regime may well be made up of many interlinked measures. The fact that a measure is linked to another measure does not disqualify it from being an SPS measure in its own right. As the Panel correctly noted, a measure is an "SPS measure" if it has one of the purposes set out in subparagraphs (a)-(d), and a "form and nature" consistent with the second paragraph of Annex A(1). The issue of whether the measure is "effective" in reducing risk may arise in the context of applying the substantive disciplines of the SPS Agreement, but does not moderate what qualifies as an "SPS measure".

2.31 For the reasons outlined above, Australia's request to reverse the Panel's finding that the 16 measures at issue "both as a whole and individually, constitute SPS

[77] This is inconsistent with the principles of treaty interpretation. The Appellate Body in *US – Reformulated Gasoline* noted at p. 23 that, under the general rule of interpretation contained in the Vienna Convention on the Law of Treaties, "interpretation must give meaning and effect to all the terms of a treaty" and "[a]n interpreter is not free to adopt a reading that would result in reducing whole clauses or paragraphs of a treaty to redundancy or inutility". The Panel in the present dispute cited this jurisprudence at para. 7.214 in relation to the link between Articles 2.2, 5.1 and 5.2 of the SPS Agreement.

[78] Panel Report, para. 7.182.

[79] Appellant submission of Australia, para. 66.

[80] Ibid.

measures within the meaning of Annex A(1) and are covered by the SPS Agreement"[81] should be rejected.

B: MISINTERPRETATION AND MISAPPLICATION OF ARTICLES 2.2, 5.1, AND 5.2: GROUND B

2.32 Australia appeals the Panel's finding that the measures imposed by Australia for fire blight and ALCM, as well as for general measures, are inconsistent with the requirements of Articles 5.1, 5.2 and 2.2. In particular, Australia claims that "the Panel erred in its interpretation and application of what constitutes a proper 'risk assessment'".[82]

2.33 Australia's essential claim is that the Panel misapplied the guidance provided by the Appellate Body in *US/Canada - Continued Suspension.* Australia claims that, instead of following the clear guidance of the Appellate Body to assess whether reasoning in the IRA is objective and coherent and that particular conclusions find sufficient support in the scientific evidence relied upon (as the Panel did), the Panel should have applied a completely different test devised by Australia. At times Australia argues that this new test requires nothing more than recording the expert judgements actually made.[83] At other times Australia concedes that such expert judgement should at least be "within a range that could be considered legitimate by the standards of the scientific community".[84]

2.34 As will be demonstrated below, Australia provides no convincing reason for jettisoning a significant aspect of the Appellate Body's guidance in *US/Canada – Continued Suspension* and replacing it with a test of Australia's own design. Moreover, the test suggested by Australia does not appear to address the relationship between the scientific evidence relied upon on the one hand and the reasoning and conclusions in a risk assessment on the other. In this sense, the new test proposed by Australia is simply the latest incarnation of Australia's efforts to circumvent this key requirement and shield the IRA from effective review.

[81] Panel Report, para. 8.1(b).

[82] Australia's notification of appeal, para. 2(b).

[83] Appellant submission of Australia, paras. 11, 77, 97.

[84] Appellant submission of Australia, para. 78.

1. The Panel properly applied the guidance of the Appellate Body in *US/Canada - Continued Suspension*

2.35 In the context of elaborating the appropriate standard of review under Article 5.1, the Appellate Body in *US/Canada – Continued Suspension* set out what is required of a panel reviewing a risk assessment. The Appellate Body recalled its previous rejection of a "deferential reasonableness standard", and reiterated that Article 11 of the DSU "articulates with great succinctness but with sufficient clarity the appropriate standard of review for panels."[85] The Appellate Body further recalled that "so far as fact-finding by panels is concerned, the applicable standard is 'neither *de novo* review as such, nor 'total deference', but rather the 'objective assessment of the facts''."[86]

2.36 The Appellate Body then set out in more detail what a panel "must determine" in assessing whether SPS measures are based on a risk assessment. The Appellate Body stated that "the review power of a panel is not to determine whether the risk assessment undertaken by a WTO Member is correct, but rather to determine whether the risk assessment is supported by coherent reasoning and respectable scientific evidence and is, in this sense, objectively justifiable."[87] Taking into account that WTO Members may properly base an SPS measure on divergent views, as long as they are from qualified and respected sources, the Appellate Body set out four elements that a panel "*must*" apply in reviewing the consistency of an SPS measure with Article 5.1 of the SPS Agreement:

> [F]irst, identify the scientific basis upon which the SPS measure was adopted. This scientific basis need not reflect the majority view within the scientific community but may reflect divergent or minority views. Having identified the scientific basis underlying the SPS measure, the panel must then verify that the scientific basis comes from a respected and qualified source. Although the scientific basis need not represent the majority view within the scientific community, it must nevertheless have the necessary scientific and methodological rigour to be considered reputable science. In other words,

[85] Appellate Body Report, *US/Canada – Continued Suspension*, para. 587.

[86] Appellate Body Report, *US/Canada – Continued Suspension*, para. 589.

[87] Appellate Body Report, *US/Canada – Continued Suspension*, para. 590.

> while the correctness of the views need not have been accepted by the broader scientific community, the views must be considered to be legitimate science according to the standards of the relevant scientific community. A panel should also assess whether the reasoning articulated on the basis of the scientific evidence is objective and coherent. In other words, a panel should review whether the particular conclusions drawn by the Member assessing the risk find sufficient support in the scientific evidence relied upon. Finally, the panel must determine whether the results of the risk assessment "sufficiently warrant" the SPS measure at issue. Here, again, the scientific basis cited as warranting the SPS measure need not reflect the majority view of the scientific community provided that it comes from a qualified and respected source.[88]

2.37 The Panel in this case explicitly addressed the standard of review that it would apply under Article 5.1. In quoting the relevant parts of the Appellate Body Report in *US/Canada – Continued Suspension* noted above, the Panel stated that in these passages it:

> …finds enough guidance on how to review Australia's SPS measures. The Panel finds no reason to articulate a standard of review that departs from such guidance. In any event, the Panel notes that, in its second written submission, Australia indicated that it would no longer insist on its earlier suggestion that, in its analysis of Australia's SPS measures under Article 5.1, the Panel should accord "considerable deference" to Australia's IRA.[89]

2.38 In light of this standard of review, the Panel turned to "reviewing Australia's IRA, considering its scientific basis and reasoning in light of the alleged flaws that have been identified by New Zealand, in order to determine whether New Zealand has articulated a *prima facie* case that the IRA is not a proper risk assessment within the meaning of Article 5.1 of the SPS Agreement."[90] The Panel then applied the guidance provided by the Appellate Body in the context of reviewing the IRA. The Panel's adherence to the Appellate Body's guidance is evident both from the questions posed by

[88] Appellate Body Report, *US/Canada – Continued Suspension*, para. 591.

[89] Panel Report, para. 7.226.

[90] Panel Report, para. 7.229.

the Panel to the experts,[91] and in the Panel's approach to its review of the relevant parts of the IRA.[92] It is clear that the Panel focused on the evidence contained in the risk assessment, asked itself and the experts appropriate questions, and in the process properly interpreted and applied Article 5.1 according to the appropriate standard of review and the guidance provided by the Appellate Body in *US/Canada – Continued Suspension*.

2. Australia's grounds of appeal are baseless

2.39 Australia challenges the Panel's application of the guidance contained in *US/Canada – Continued Suspension*. Australia's criticism of the Panel's interpretation and application of Article 5.1 turns primarily on four propositions:

a) that the third criterion in *US/Canada – Continued Suspension* should be applied only to "conclusions ultimately reached" and not "intermediate conclusions";[93]

b) that the third criterion in *US/Canada – Continued Suspension* should be rewritten to require only that expert judgement falls within "a range that could be considered legitimate by the standards of the scientific community";[94]

c) that the Panel failed to assess the materiality of the flaws in the IRA, both collectively and (somewhat contrary to the first two propositions) of the "intermediate conclusions" individually;[95] and

[91] See, for example, Guideline (g) of the list of questions posed to experts by the Panel, 16 January 2009.

[92] See, for example, Panel Report, paras. 7.255-7.510 and 7.797-7.887. This topic will be addressed in detail in rebutting Australia's claims of specific Panel error in relation to Article 5.1, below.

[93] See, for example, appellant submission of Australia, paras. 76 and 77. Although initially arguing that this requirement is limited to "conclusions ultimately reached", Australia later concedes that the third criterion, albeit in its altered form, should also be applied to intermediate steps (see, for example, para. 93(4) of the appellant submission of Australia).

[94] See, for example, appellant submission of Australia, para. 78.

[95] See, for example, appellant submission of Australia, paras. 78, 84-90, 101, 103, 105, 106, 108 and 122.

d) that the Panel relied on ISPMs to impose a "free-standing obligation to explain precisely how [the IRA] got to the expert judgements it made and recorded at intermediate steps in the IRA."[96]

2.40 The first two propositions are designed to shelter the IRA from effective review; the second two propositions are based on a misreading of the Panel Report; all four are based on a misapplication of the Appellate Body guidance in *US/Canada – Continued Suspension;* and none find any basis in the SPS Agreement or the jurisprudence. Indeed, Australia's approach amounts to a significant departure from the Appellate Body's guidance in *US/Canada – Continued Suspension*, that, if accepted, would seriously erode the disciplines contained in the SPS Agreement.[97]

3. Australia's discussion of Articles 2.2, 5.1, 5.2, 5.3 and 5.7, and ISPM No. 11 and ISPM No. 2, does not justify a departure from the Appellate Body's guidance in *US/Canada – Continued Suspension*

2.41 In building up to these propositions, Australia engages in a discussion of the concepts of "sufficient scientific evidence", "scientific uncertainty", and "expert judgement" that is presumably supposed to help explain or justify why Australia considers that the recent guidance by the Appellate Body in *US/Canada – Continued Suspension* should be rewritten. However, the relevance of this discussion to Australia's proposed reformulation of *US/Canada – Continued Suspension* is difficult to discern.

2.42 Although Australia starts by setting out the guidance provided by the Appellate Body in *US/Canada - Continued Suspension*, it goes on to state that "a proper legal

[96] Appellant submission of Australia, paras. 96-97, and Annex II, p. 71.

[97] New Zealand notes that in its section on "Applicable legal principles", Australia also proposes a reformulation of the first criterion in *US/Canada – Continued Suspension* – see para. 78(1) of appellant submission of Australia. In identifying the Panel's errors for fire blight, Australia claims that the Panel invoked "the first and third of the criteria" in coming to various conclusions, which it cites in para. 82(1) of its appellant submission. However, Australia appears to be confusing the Panel's application of the third criterion (that "particular conclusions find sufficient support in the scientific evidence") with the first criterion ("identifying the scientific basis" relied on by the IRA). It is clear from the paragraphs in the Panel Report referred to by Australia that the Panel was applying the third criterion of *US/Canada – Continued Suspension*. In any event, the substance of Australia's argument, that the Panel misapplied the guidance provided in *US/Canada – Continued Suspension*, should be rejected for the reasons elaborated in this submission.

interpretation" of Article 5.1 must be "informed" by a number of additional factors, namely, Article 2.2, the references in Article 5.1 to risk assessments being "as appropriate to the circumstances" and "taking into account the risk assessment techniques developed by the relevant international organizations",[98] and Articles 5.2 and 5.3. Australia appears to be suggesting that once these additional factors are properly taken into account, they justify revising the Appellate Body's guidance in *US/Canada – Continued Suspension.* For the reasons set out below, this belief is unfounded.

2.43 As an initial point, in providing its guidance in *US/Canada – Continued Suspension,* the Appellate Body was clearly aware of Article 2.2, and the requirements of Articles 5.1, 5.2 and 5.3. Indeed, the Appellate Body in that case dealt expressly with many of the provisions that Australia now suggests justify a departure from that Appellate Body jurisprudence. Contrary to Australia's suggestion, there is no reason to believe that the Appellate Body overlooked these matters in providing guidance on what Article 5.1 requires.

2.44 Moreover, the relevance of Australia's discussion of the concepts of "sufficient scientific evidence" in Articles 2.2 and 5.7, and of "appropriate to the circumstances" and "risk assessment techniques developed by international organizations" under Article 5.1, to its ultimate reformulation of the guidance in *US/Canada – Suspension of Concessions* is not clear. To the extent that Australia is simply highlighting that risk assessments often involve scientific uncertainty and that expert judgement may be used in such circumstances, New Zealand does not disagree. This is true of almost all risk assessments and Australia's IRA would not be exceptional in this regard. Moreover, there seems to be no logical connection between this and Australia's alternative formulation of the third criterion, its claim that intermediate conclusions are sheltered from review, and its views on materiality.

2.45 To the extent, however, that Australia is proposing that the requirement of "sufficient scientific evidence" should be modified or "watered down" in circumstances of scientific uncertainty, New Zealand disagrees. The requirement under the third

[98] Appellant submission of Australia, para. 69.

criterion in *US/Canada – Continued Suspension* (that reasoning in an IRA is "objective and coherent" and conclusions drawn "find sufficient support in the scientific evidence") applies equally to reasoning and conclusions that are based in part on the application of expert judgement. As recognised by the Panel in this case, a claim to have relied on expert judgement cannot shelter an IRA from review.[99]

2.46 Likewise, Australia has created a misleading impression of existing jurisprudence regarding the phrase "as appropriate to the circumstances" by providing only partial quotes from the two cases that it has cited. The key point made in those cases (as the full quotations make clear) is that while the phrase "as appropriate to the circumstances" provides some flexibility in terms of the nature of the risk assessment undertaken, it does not justify a deviation from the substantive obligations in Article 5.1.[100] But, in any event, it is not clear how this jurisprudence relates to (let alone justifies) rewriting the guidance provided in *US/Canada – Continued Suspension*, especially as one of the cases quoted by Australia in this regard is, itself, the Appellate

[99] See, for example, Panel Report, para. 7.440.

[100] The paragraph cited by Australia from the Panel Report in *EC – Biotech* provides as follows*:*

> 7.3053 We need not determine whether relevant scientific evidence was or is insufficient for Austria, and if so, whether this would be a relevant circumstance. Even if this were the case, the flexibility which the phrase "as appropriate to the circumstances" may in some situations provide does not relieve Austria from the requirement in Article 5.1 to base its safeguard measure on a risk assessment which meets the definition of Annex A(4). All of the Annex A(4) definition of the term "risk assessment" which are applicable to Austria's safeguard measure, must, in our view, be met. It is useful to recall in this respect that the Appellate Body in *Australia – Salmon* observed that an evaluation of the likelihood of entry, establishment or spread of a pest could be done both quantitatively and qualitatively. Moreover, in circumstances where there is little available scientific evidence, the phrase "as appropriate to the circumstances" may provide a measure of flexibility in terms of how (but not whether) the applicable elements of the Annex A(4) definition, including the likelihood evaluation, are satisfied. In the case at hand, we have answered in the negative the question of whether the documents which Austria relied on satisfy the applicable elements of the Annex A(4) definition of the term "risk assessment". Therefore, we see no need to examine further the European Communities' argument in relation to the phrase "as appropriate to the circumstances". (Footnotes omitted.)

The paragraph cited by Australia from the Appellate Body Report in *US/Canada – Continued Suspension* (para. 562) goes on to state: "However, that does not excuse the risk assessor from evaluating whether there is a connection between the particular substance being evaluated and the possibility that adverse health effects may arise." See also the Panel Report in *Australia – Salmon* at para. 8.57, which states that the phrase "as appropriate to the circumstances" cannot "annul or supersede the substantive obligation resting on Australia to base the sanitary measure in dispute (irrespective of the products that measure may cover) on a risk assessment. We consider that the reference 'as appropriate to the circumstances' relates, rather, to the way in which such risk assessment has to be carried out."

Body Report in *US/Canada – Continued Suspension.*[101] Australia concludes its discussion of the phrase "as appropriate to the circumstances" by stating that:

> If the body of scientific data from respected and qualified sources is sufficient to foreclose the availability of precautionary measures pursuant to Art 5.7, but uncertain, incomplete or inconclusive in its import, that too presents particular circumstances, and "particular methodological difficulties", to which the Member conducting a risk assessment under Article 5.1 is entitled to adapt its methodologies.[102]

2.47 But, once again, this does not explain or justify a departure from *US/Canada – Continued Suspension*. In addition, New Zealand recalls in this context that part way through the eight year risk assessment process for New Zealand apples, Australia decided to deviate from its usual "qualitative" approach to assessing risk, and adopted instead a semi-quantitative approach in which probability of entry, establishment and spread (PEES) would be assessed *quantitatively*. This change was made in response to "stakeholder comments" and following the recommendation of a Senate inquiry.[103] As was made clear by the experts assisting the Panel in this case, the availability of evidence and data is a major factor in deciding what kind of methodology to apply.[104] The Panel agreed with the experts that "a quantitative methodology should only be used 'when reliable specific numeric data are available' to support the choice of probability ranges and probability shapes."[105] Other methodologies (such as a qualitative approach) can be used where this is not the case.[106] Having made the decision to adopt a quantitative approach to assessing PEES, Australia cannot seek to shelter the "quantitative"

[101] Appellant submission of Australia, para. 73.

[102] Appellant submission of Australia, para. 73.

[103] New Zealand's first written submission, paras. 3.20-3.21. It is of note that New Zealand's access request for apples is one of only two occasions out of approximately 29 current or concluded risk analyses for importing plant products in which Australia has used a quantitative method of risk analysis (the other case being an IRA for the importation of bananas from the Philippines); New Zealand's first written submission, para. 4.166. Australia's recent IRA for apples from China uses qualitative methods (New Zealand's second written submission, para. 2.329).

[104] See, for example, compilation of expert replies, paras. 700-701 and 727-733.

[105] Panel Report, para 7.441.

[106] Dr. Sgrillo, compilation of expert replies, para. 729. See also Dr Sgrillo's response at para. 191 of the transcript of the Panel's meeting with the experts, where he stated "[i]t is difficult many times to find the right data. Fortunately, there are other techniques than quantitative only, so when the lack of data, you see that the data will not support your choice, then you have to move to another approach to solve that."

conclusions contained in the IRA from effective review simply by reference to the lack, or inconclusiveness, of data to support those conclusions and a claim to have applied "expert judgement".

2.48 To be clear, New Zealand does not contest that WTO Members have flexibility to adapt risk assessment methodologies. However, irrespective of the particular methodology used in a risk assessment, under the third criterion in *US/Canada – Continued Suspension* the reasoning articulated on the basis of the scientific evidence must be "objective and coherent". In other words, particular conclusions must "find sufficient support in the scientific evidence relied upon". This key requirement ensures that a sufficient relationship exists between the scientific evidence on the one hand, and the conclusions reached on the other. Nothing in the phrase "appropriate to the circumstances" changes that.

2.49 Australia refers to ISPM No. 11 and ISPM No. 2 to make the self-evident point that expert judgement may play a role in risk assessments where science is uncertain. However, what is missing from Australia's discussion is that under the IPPC, phytosanitary measures must not be applied by member countries unless they are technically justified.[107] It is not, therefore, correct to imply that the only thing that the IPPC has to say about the matter is that scientific uncertainty should be documented and expert judgement recorded when used. In any event, clearly ISPM No. 11 and ISPM No. 2, which establish general principles for risk assessment, cannot be used to read down the specific obligations contained in Article 5.1 of the SPS Agreement. The fact that risk assessments should "take into account techniques developed" by relevant international organisations does not suggest that those risk assessment techniques can be

[107] Article VII. 2(a) and (g) of the IPPC Convention. Article VII 2 provides: "In order to minimize interference with international trade, each contracting party, in exercising its authority under paragraph 1 of this Article, undertakes to act in conformity with the following:

(a) Contracting parties shall not, under their phytosanitary legislation, take any of the measures specified in paragraph 1 of this Article unless such measures are made necessary by phytosanitary considerations and are technically justified.

(g) Contracting parties shall institute only phytosanitary measures that are technically justified, consistent with the pest risk involved and represent the least trade restrictive measures available, and result in the minimum impediment to the international movement of people, commodities and conveyances.

used to shelter risk assessments from proper review under Article 5.1. In particular, it cannot be used to suggest that a risk assessment is objectively justifiable provided the Member undertaking the risk assessment simply indicates where expert judgement has been used. The ISPMs referred to by Australia in no way support the proposition that where expert judgement is exercised, there is no longer a requirement under Article 5.1 for reasoning that is objective and coherent and conclusions that are sufficiently supported by scientific evidence.

4. Australia's proposition that the third criterion in *US/Canada – Continued Suspension* applies only to conclusions "ultimately reached" and not "intermediate conclusions" is flawed and should be rejected

2.50 The third criterion set out by the Appellate Body in *US/Canada – Continued Suspension* requires a Panel reviewing a risk assessment to:

> …assess whether the reasoning articulated on the basis of the scientific evidence is objective and coherent. In other words, a panel should review whether the particular conclusions drawn by the Member assessing the risk find sufficient support in the scientific evidence relied upon.[108]

2.51 Without any supporting argumentation Australia asserts that "[c]ritically the application of this criterion focuses on the relationship between the scientific evidence and the conclusions ultimately reached by the Member as the basis for an SPS measure".[109] Although Australia underlined the word "conclusions" in its submission, in fact it is the words "ultimately reached" that deserve emphasis. In applying the third criterion, Australia distinguishes between "conclusions ultimately reached" and "expert judgements made at every intermediate step" in the risk assessment.[110] According to Australia, this third criterion is not answered by:

> …asking whether expert judgements made at every intermediate step in the application of the methodology are themselves supported by reasoning that is articulated in a way that

[108] Appellate Body Report, *US/Canada – Continued Suspension*, para. 591.

[109] Appellant submission of Australia, para. 76.

[110] Appellant submission of Australia, paras. 76 and 77.

> can be seen to be objective and coherent. To the contrary, as recognised in ISPM No.11 and ISPM No.2 the most that can required at each such intermediate step is an indication of the expert judgement actually made and of the scientific evidence by reference to which the expert judgement was actually made.[111]

2.52 As noted above, ISPM No. 11 and ISPM No. 2 cannot be used to read the obligation down in this way. Indeed, New Zealand submits that there is no basis for reading the third criterion identified in *US/Canada – Continued Suspension* in such a limited manner. The guidance provided by the Appellate Body refers to "particular conclusions" not "conclusions ultimately reached". This is also evident from the way that the Appellate Body indicated that its guidance should have been applied in that case.[112]

2.53 It is also worth pausing to consider the implications of what Australia is saying in the context of the IRA's methodology in this case. While Australia does not clearly define the terms "conclusions ultimately reached" and "intermediate conclusions" it would appear that Australia is using the phrase the "conclusions ultimately reached" to refer to the overall assessment of risk, the overall probability of entry, establishment and spread, and possibly also the overall probability of importation. Australia treats as "intermediate steps" the conclusions relating to all of the key stages of the pathway, as set out in the IRA itself; that is, importation steps 1 to 8, and key conclusions relating to proximity, exposure, establishment and spread. According to Australia, therefore, the vast majority of the IRA is subject only to the requirement to provide an indication that an "expert judgement" was "actually made".[113] There is no requirement to demonstrate any kind of relationship between such conclusions and the scientific evidence relied upon. In other words, provided that the IRA indicates that a conclusion has been reached, according to Australia that conclusion cannot be reviewed.

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[111] Appellant submission of Australia, para. 77.

[112] Appellate Body Report, *US/Canada – Continued Suspension*, para. 591. As examples, the Appellate Body applied this guidance to the Panel's conclusions relating to: the genotoxicity of oestradiol-17B, at paras. 599-601; the issue of whether a threshold could be established, at paras. 607-610; and the endogenous levels of hormones in pre-pubertal children, at paras. 611-612.

[113] Appellant submission of Australia, para. 77.

2.54 Australia's proposed approach is especially problematic in light of the stochastic risk assessment model employed in the IRA for determining the probability of entry, establishment and spread. According to this methodology the "ultimate conclusion reached" is effectively no more than a mathematical combination of volume of trade and probabilities at the intermediate steps.[114] Moreover, the IRA did not provide any independent scientific justification for its ultimate conclusions beyond that which it relied on to support its intermediate conclusions.[115] In these circumstances, arguing that a panel cannot review the relationship between the science and the intermediate conclusions effectively is an argument that it cannot review the risk assessment. While this is consistent with Australia's repeated efforts to avoid such review, it is not consistent with the obligations in the SPS Agreement.

5. Australia's proposition that the third criterion in *US/Canada – Continued Suspension* should be rewritten to ask whether the expert judgement "was within a range that could be considered legitimate by the standards of the scientific community" is flawed and should be rejected

2.55 With respect to the "conclusion ultimately reached", Australia concedes that the third criterion should be applied, albeit reformulated in a way that finds no basis in the guidance provided by the Appellate Body in *US/Canada – Continued Suspension.* Australia reworks the third criterion in the following way:

> …as to the third criterion in *US/Canada – Continued Suspension* (that the "reasoning articulated on the basis of the scientific evidence [be] objective and coherent"): that in the

[114] See Panel Report, para. 2.64. See also, for example, Australia's description of the methodology used to calculate the overall probability of importation, appellant submission of Australia, para. 35.

[115] See, for example, in the context of the overall probability of importation, the Panel's statements at paras. 7.356 and 7.357 that "…the IRA does not attempt to find justification for the estimated overall probability of importation, other than the aggregation of the different individual likelihoods represented by each importation step" and that, "[i]n light of the conclusions reached earlier by the Panel regarding the IRA's estimations of individual importation steps, and the lack of any separate justification and evidence in the IRA regarding the estimated overall likelihood of importation, the Panel finds that the overall probability of importation does not rely on". Moreover, the Panel noted at para. 7.427 (when discussing fire blight), "[t]he IRA combines in an @RISK model the partial probability estimate for importation, the estimated volume of apples and the partial probability estimates for establishment and spread, to obtain an overall value for the annual probability of entry, establishment and spread (PEES)".

light of the identified available scientific evidence and in the light of the identified scientific uncertainty, the risk assessment conducted by the Member recorded an expert judgement that:

(a) was within a range that could be considered legitimate by the standards of the scientific community; or

(b) even if outside that range, was not such as to undermine reasonable confidence in the assessment as a whole.[116]

2.56 New Zealand observes, at the outset, that if a *conclusion ultimately reached* is outside the range that could be considered legitimate by the standards of the scientific community, it is difficult to understand how this could *not* be such as to undermine reasonable confidence in the assessment *as a whole*. After all, it relates to the *conclusion ultimately reached*. In any event, for the reasons outlined above, Australia's attempt to confine Panel review through the application of this criterion only to "conclusions ultimately reached" is flawed and should be rejected.

2.57 Indeed, later in its submission, Australia appears to acknowledge this and applies the third criterion – albeit in its altered form – to the Panel's findings on "intermediate" conclusions in the IRA. In particular, Australia finds fault with the Panel's review of these intermediate conclusions on the basis that the Panel "failed to ask itself the right question: namely, whether the expert judgements made by Biosecurity Australia at intermediate steps in the IRA fall within a range that could be considered legitimate by the standards of the scientific community".[117] Australia says that "instead the Panel appears to have asked whether the Panel itself, or the experts engaged by the Panel, would have made the same judgement."[118]

2.58 The allegation that the Panel looked at whether the Panel or experts "would have made the same judgement" is baseless. As indicated above, and as will be further demonstrated later in this submission, the Panel did no more than apply the third criterion

[116] Appellant submission of Australia, para. 78.

[117] Appellant submission of Australia, para. 95.

[118] Appellant submission of Australia, para. 95.

as elaborated by the Appellate Body in *US/Canada – Continued Suspension*. In other words, the Panel asked itself whether the reasoning articulated on the basis of the scientific evidence is objective and coherent, and whether particular conclusions find sufficient support in the scientific evidence. This is precisely what was required of it.

2.59 A prior and more fundamental question is why the third criterion, clearly expressed by the Appellate Body in *US/Canada – Continued Suspension*, should be completely rewritten in the way now being proposed by Australia. Why should the Panel ask itself a *different* question from that set out by the Appellate Body? Australia's submission provides no answer.

2.60 In addition, it is not at all clear what Australia actually means by this new test or how it would be applied. It might be tempting to think that in order for a conclusion to fall "within a range that could be considered legitimate by the standards of the scientific community" it would at a minimum have to be based on reasoning that is "objective and coherent" and find "sufficient" support in the scientific evidence relied upon. If this were the case, Australia's new formulation would be no different from the third criterion set out by the Appellate Body, which was faithfully applied by the Panel in this case.

2.61 However, Australia clearly intends that its alternative formulation establishes a far lower threshold. Australia states that in reviewing intermediate conclusions in the IRA to determine whether they were "objective and coherent" the Panel "has applied a standard well beyond anything required by the third of the criteria in *US/Canada – Continued Suspension*."[119] Yet "objective and coherent" reasoning is precisely what the Appellate Body's guidance *does* require. Australia evidently sets out a new "minimum" standard that does not require that the basic thresholds explicitly established by the Appellate Body are met.

2.62 This is significant because the third criterion, as set out by the Appellate Body, plays an important role in the review of a risk assessment to ensure it is objectively justifiable. It establishes the linkage required between the scientific evidence relied upon

[119] Appellant submission of Australia, para. 93.

on the one hand (albeit evidence that may be incomplete or subject to some uncertainty) and the conclusions in a risk assessment on the other hand (albeit requiring the application of a degree of expert judgement). The low threshold that Australia envisages in reformulating the third criterion would sever this linkage.

2.63 In arguing for a low threshold under the third criterion, Australia states that "the standard required for such expert judgement as may be made by the risk assessor in the light of scientific uncertainty, where the evidence is incomplete or inconclusive, ought to be no different from the standard recognised in *US/Canada - Continued Suspension* as that required for the scientific evidence itself: each need do no more than fall within a range that could be considered "legitimate by the standards of the scientific community".[120] This argument by Australia calls for a number of comments.

2.64 First, it appears that Australia is establishing a test that applies only "where the evidence is incomplete or inconclusive". In promulgating this alternative test in its appellant submission, Australia attempts to convey the impression that the risk assessment in this case faced an unprecedented level of scientific uncertainty. Yet in its submissions to the Panel Australia claimed that, with respect to fire blight, "only *one* step in the pathway is subject to any real degree of uncertainty."[121] The reality is that all risk assessments deal with a degree of scientific uncertainty. Indeed, the circumstances in *US/Canada – Continued Suspension* were no exception. There is no reason to suggest, therefore, that any "uncertainty" in the current case justifies a departure from the guidance provided by the Appellate Body in that case.

2.65 Second, Australia's argument fails to recognise that the second and third criteria set out in *US/Canada – Continued Suspension* have a different focus and different functions. The second criterion focuses on the scientific evidence underlying a risk assessment and determining whether that evidence is "legitimate science"; the third criterion focuses on reviewing the reasoning and conclusions in a risk assessment *by reference to* the scientific evidence relied upon. This requires a comparison between

[120] Appellant submission of Australia, para. 77.

[121] Australia's opening oral statement at the second substantive meeting, para. 73 (original emphasis); see also, Australia's closing oral statement at the second substantive meeting, para. 14.

scientific evidence on the one hand and the reasoning and conclusions in the risk assessment on the other, to review whether a sufficient relationship between the two exists. Australia's alternative test, which asks whether reasoning and conclusions in a risk assessment are considered "legitimate by the scientific community" is focused on the wrong question. It does not speak directly to assessing the relationship between the scientific evidence relied upon and the reasoning and conclusions reached. To the extent that such an assessment is *implicit* in Australia's alternative, it is no different from the test promulgated by the Appellate Body and applied by the Panel in this case.[122] To the extent that such an assessment is not required by Australia's alternative, it dispenses with an essential element of the disciplines contained in the SPS Agreement.

6. Australia's propositions regarding "materiality" both misstate the requirement and misread the Panel report and should be rejected

2.66 Australia appears to be making two separate claims with regard to materiality. The first is that the Panel failed to assess the *overall* materiality of the various errors at the intermediate steps. The second is that the Panel should have engaged in an assessment of materiality of the flaws *at each* intermediate step to determine whether, in themselves, they undermine the overall assessment of risk. Both of these claims are based on a misreading of the Panel Report and of the guidance provided by the Appellate Body in *US/Canada – Continued Suspension.*

2.67 As an initial point, the precise nature of the materiality requirements being proposed by Australia is not clear from Australia's submission. Australia's primary point appears to be that flaws must be "so serious" as to "undermine reasonable confidence in the [risk] assessment as a whole."[123] It draws this "reasonable confidence" test from the compliance panel report in *Australia – Salmon*. However, at times Australia appears to

[122] Australia does not clarify how a panel (or the experts assisting the panel) should determine whether reasoning and conclusions in a risk assessment fall within a range that is considered legitimate by the scientific community. It may be wondered how such a judgement could be arrived at *without* considering the relationship between the scientific evidence relied upon and the conclusions actually reached. If this is the case, then Australia's alternative test is simply a less direct way of saying what the Appellate Body said in *US/Canada – Continued Suspension*, and what the Panel actually did in the present case.

[123] Appellant submission of Australia, para. 78(2)(b).

be implying (as it did before the Panel) that *each* flaw must *in itself* be "so serious" as to undermine reasonable confidence in the risk assessment as a whole.[124] This approach overlooks the *cumulative* effect of numerous errors at "intermediate" steps. This is particularly important in the present case where the IRA adopted a "quantitative" stochastic approach to assessing entry, establishment, and spread whereby the "intermediate steps" of the model are multiplied together. Clearly, the effect of multiplying various flawed steps together has a cumulative effect on the overall calculation.

2.68 This was well understood by the Panel. In addressing this point, and Australia's arguments with respect to the compliance panel report in *Australia – Salmon*, the Panel stated:

> It is only under the circumstances of each case, that a panel can assess whether any flaws or misconceptions in a risk assessment, alleged and demonstrated by the complainant, are only minor or whether they are serious enough to conclude that the risk assessment is not supported by coherent reasoning and respectable scientific evidence and is, in this sense, not objectively justifiable. At the same time, a number of "minor flaws or misconceptions at a detailed level" may have a cumulative effect so as to call into question the coherence and objectivity of the conclusions drawn by the Member assessing risk."[125]

2.69 In conducting its review, the Panel found significant flaws with respect to many aspects of the IRA. With regard to fire blight, the Panel concluded that four of the eight

[124] See, for example, para. 77 of the appellant submission of Australia. Although this paragraph deals primarily with "conclusions ultimately reached", when elaborating its materiality requirement Australia refers instead to whether "particular conclusions" are "so serious" as to undermine "reasonable confidence" in the risk assessment as a whole. As noted above at para. 2.56, Australia must here be talking about something other than the "conclusion ultimately reached", because presumably if the conclusion ultimately reached falls outside the range that could be accepted by the standards of the scientific community, it would *ipso facto* undermine reasonable confidence in the risk assessment as a whole. See also paras. 101, 103, 105, 106 and 108 of the appellant submission of Australia; Australia's opening oral statement at the second substantive meeting, para. 21; and Australia's reply to Panel question 2 after the second substantive meeting.

[125] Panel Report, para. 7.228. See also the Panel's statement at para. 7.355, "Indeed, if the estimations of one or more of the individual likelihoods are questionable, because those estimations are either not supported by adequate scientific evidence or not based on coherent and objective reasoning, the overall figure necessarily becomes questionable."

importation steps, and "a significant part" of the IRA's discussion on exposure, establishment and spread which could have "a major impact" on the assessment of risk, do not find sufficient support in the scientific evidence and, accordingly, are not coherent and objective.[126] With regard to ALCM, the Panel found that:

> the reasoning articulated in Australia's IRA with respect to the likelihood of entry, establishment and spread of ALCM, contains flaws which are enough to create reasonable doubts about the evaluation made by the risk assessor. The IRA has not properly considered a number of factors that could have a major impact on the assessment of this particular risk…. Due to these flaws, the IRA's reasoning in this regard cannot be found to be supported by coherent reasoning and sufficient scientific evidence and, in this sense, is not objectively justifiable.[127]

2.70 In this light, Australia's assertion that the Panel "failed to stand back and assess the materiality of the faults that it found" is simply not accurate.[128] Australia's arguments ignore significant aspects of the Panel's approach and reasoning, and focus instead on a few isolated comments from the experts consulted by the Panel taken out of context. This will be addressed in detail later in this submission. For present purposes, New Zealand simply notes that the Panel did in fact do what Australia claims it failed to do. It is difficult to understand what more the Panel could have done while avoiding conducting a *de novo* review. As the Panel itself noted:

> Little information is provided in the IRA on how the extensive discussion and review of different factors associated with the entry, establishment and spread, is then translated into quantitative estimates. The Panel cannot attempt to recalculate these estimates, as this would constitute a *de novo* review exercise. It cannot fail to note, however, that many of these estimations do not find sufficient support in the available scientific evidence and are not based on a coherent and objective reasoning.[129]

[126] Panel Report, paras. 7.447 and 7.448.

[127] Panel Report paras. 7.868 and 7.871.

[128] Appellant submission of Australia, para. 84

[129] Panel Report, para. 7.432.

2.71 Contrary to Australia's contention, the Panel was clearly focused on the materiality of the flaws in the IRA, consistent with the appropriate standard of review and the guidance provided by the Appellate Body. New Zealand will return to this in more detail in the context of Australia's specific allegations concerning particular importation steps.

7. Australia's assertion that the Panel imposed a free-standing transparency requirement is incorrect and should be rejected

2.72 Australia claims that the Panel has imposed on Australia "an apparently free-standing obligation to explain precisely how it got to the expert judgements it made and recorded at intermediate steps of the IRA." According to Australia, the Panel "discounted" the IRA's expert judgement on the basis that it was not "documented" and "transparent". Australia suggests that, for the Panel, this was "enough in itself" to produce errors in the IRA.[130]

2.73 But the Panel did no such thing. The Panel did not require Australia to "explain precisely how it got to the expert judgement".[131] The Panel simply required that the IRA meet the third criterion in *US/Canada – Continued Suspension.* The Panel found that the reasoning in the IRA was not "objective and coherent" and that particular conclusions did not find sufficient support in the scientific evidence relied upon. Indeed, Australia's arguments on this point resolve themselves into another variation of Australia's attempt to read down the third criterion in *US/Canada – Continued Suspension.* Australia reasserts here its earlier proposition that at intermediate steps it is sufficient that the IRA "identified the nature of the expert judgement required" and "recorded the judgement actually made". Australia argues that there is no requirement "for an explanation of <u>how</u> a particular expert judgement was reached."[132] To the extent that Australia is arguing that there is no requirement for reasoning to be objective and coherent, and for particular

[130] Appellant submission of Australia, para. 96.

[131] Appellant submission of Australia, para. 96.

[132] Appellant submission of Australia, para. 97.

conclusions to find sufficient support in the scientific evidence, this is simply inconsistent with the requirements of Article 5.1.

2.74 Australia's argument that the Panel treated the failure to "document" expert judgement as a basis "in itself" of error mischaracterises what the Panel actually did. In fact, the Panel's statements on transparency and expert judgement derive from the obligations contained in the SPS Agreement, and are made in the context of the Panel's application of those obligations. The two paragraphs identified by Australia as containing this "error" are, for fire blight, in the context of the Panel's overall "conclusions regarding entry, establishment and spread", and for ALCM in the context of the Panel's finding on occupancy and viability of ALCM cocoons.[133] In both paragraphs identified by Australia, the Panel was explicitly responding to, and rejecting, Australia's argument (now being re-argued by Australia on appeal) that simply demonstrating that expert judgement has been applied is sufficient. As the Panel makes clear, the exercise of expert judgement in the context of risk assessments being examined under Article 5.1 of the SPS Agreement is "subject to certain rules" and is not "immune from examination by the Panel".[134] In particular, expert judgement must be exercised in such a way, and with sufficient transparency, that the Panel is able to review whether conclusions find sufficient support in the scientific evidence, and contain reasoning that is "objective and coherent". Without this, the Panel would not be able to conduct an objective assessment of the matter.

2.75 The Panel's reference to lack of transparency in the exercise of expert judgement is not therefore treated as an error "in itself"; rather it relates directly to the fact that there is no apparent linkage between the conclusions reached in the IRA and the scientific evidence relied upon. Although Australia claimed to be applying expert judgement, the Panel found that it is simply not clear how the conclusions reached find

[133] New Zealand notes that Australia attempts to bolster its case by reference to paragraphs relating to the Panel's analysis of European canker (paras. 7.593 and 7.746). Two of the four paragraphs identified by Australia as containing this "error" are found in the section of the Panel Report relating to European canker, which has not been appealed by Australia.

[134] Panel Report, para. 7.804.

sufficient support in the scientific evidence. For example, in the context of viability of ALCM, the Panel concluded:

> New Zealand has made a *prima facie* case, not rebutted by Australia, that the data on occupancy and viability of ALCM in cocoons on New Zealand apples was not adequately taken into account. There is no indication in Australia's IRA of how the exercise of expert judgement could have cured this. Moreover, because the recourse to expert judgement in the IRA was not documented and transparent, the Panel is prevented from considering how the available scientific evidence was taken into account and conclusions were drawn through this exercise…[a]s a result the Panel finds that the IRA's reasoning regarding the viability of ALCM, is not objectively justifiable.[135]

2.76 Likewise, for fire blight, the Panel concludes that in addition to simply claiming that it applied expert judgement, Australia would have had to demonstrate that the expert judgement was "based on the relevant reliable scientific information".[136] In this regard the Panel concludes that significant parts of Australia's risk assessment for fire blight do not find sufficient support in the scientific evidence or contain reasoning that is coherent and objective.[137]

2.77 Australia draws a false parallel between the Panel's examination of a risk assessment under Article 5.1, and the Panel's treatment of statements made by the experts assisting the Panel. Australia suggests that with respect to experts' statements the "Panel was frequently prepared to accept and act upon very high level conclusions articulated without detailed reasoning", apparently suggesting that the Panel should do the same with respect to Australia's IRA.[138] Australia's statement exhibits a fundamental misconception of the role of experts called upon to assist the Panel in accordance with Article 11 of the SPS Agreement and Article 13 of the DSU. In the context of Article 5.1, the Appellate Body has clarified that a Panel should rely on experts to assist in the *review* of a risk assessment according to the four criteria set out in *US/Canada* –

[135] Panel Report, paras. 7.805-7.806.

[136] Panel Report, para. 7.440.

[137] Panel Report, paras. 7.447 and 7.448.

[138] Appellant submission of Australia, para. 98.

Continued Suspension, but that "[t]he purpose of a panel consulting with experts is not to perform its own risk assessment."[139] Clearly, it is inappropriate to suggest that the experts' comments should be judged by the same criteria as conclusions in a risk assessment. To do so, would be to require the experts to conduct a *de novo* review. The experts assisting the Panel in this case appropriately focused their comments on reviewing the IRA.

2.78 Finally, in defending its use of expert judgement, Australia appears to be arguing that the Panel did not place sufficient weight on the fact, as asserted by Australia, that the IRA "fully explained its methodology", and the "nature of the expert judgement required."[140] Again, Australia argues as if an explanation as to how expert judgement was used in the IRA is sufficient to meet its obligations under the SPS Agreement - it transforms the third criterion in *US/Canada – Continued Suspension* into a purely procedural requirement. In any event, an examination of the IRA's description of how it applied expert judgement reinforces rather than relieves concerns in this area. As the Panel noted, in this regard the IRA contains only "a brief general section" in an appendix to the IRA.[141] As is clear from that section, and as confirmed by Australia during the Panel process, no recognised process for the elicitation and combination of expert opinion was followed.[142] This is surprising given the key role that Australia now claims expert judgement to have played in the risk assessment.[143] Moreover, decisions were made by the consensus of a seven-member group which included a prominent member of the Australian apple industry. And consensus had to form only around the issue of whether broad pre-determined probability ranges "contained" the "actual value" and that the distribution "reflected their beliefs".[144] As elaborated in more detail later in this

[139] Appellate Body Report, *US/Canada – Continued Suspension*, para. 592.

[140] Appellant submission of Australia, para. 11.

[141] Panel Report, para. 7.437.

[142] Transcript of the Panel's meeting with experts, para. 164. See also para. 161 in which Dr Sgrillo states that the information contained in the appendix to the IRA "is not enough to technically evaluate the process."

[143] Transcript of the Panel's meeting with experts, paras. 161 and 166.

[144] Although Australia claims that the IRA Team were not constrained by the intervals imported from Biosecurity Australia's *2001 Draft Guidelines for Risk Analysis*, in fact, in the vast majority of instances, these intervals were used without deviation.

submission, this is particularly problematic in the context of modelling the "negligible" interval.

8. Specific Panel "errors": fire blight

2.79 The Panel found that Australia's measures regarding fire blight on New Zealand apples are inconsistent with Articles 5.1, 5.2 and 2.2 of the SPS Agreement.[145] In an attempt to demonstrate that the Panel misinterpreted and misapplied these Articles, Australia sets out a number of examples of the Panel's findings in relation to fire blight, which it believes show that the Panel:

a) failed to assess the materiality of the purported flaws in the IRA;

b) failed to consider whether the IRA's conclusions were within the range that could be considered legitimate by the standards of the scientific community; and

c) misapplied the required standard of scientific "sufficiency".

2.80 None of Australia's claims have any merit.

2.81 As an initial point, New Zealand notes that, in arguing that the Panel "misinterpreted and misapplied" Article 5.1, Australia relies primarily on a handful of expert statements, which Australia claims demonstrate a "failure to engage with significant evidence favourable to Australia".[146] Australia uses these same few statements to claim that the Panel failed to conduct an objective assessment of the matter under Article 11 of the DSU. Panels have significant discretion as triers of fact, including determining the credibility and weight to ascribe to a given piece of evidence, and discretion to decide which evidence they choose to utilise in making findings. The thrust of Australia's claims in relation to Article 5.1, therefore, appears to be that the Panel exceeded this margin of discretion by allegedly "failing to engage" with certain pieces of evidence. Given the nature of Australia's assertions, these arguments are more

[145] Panel Report para. 7.472.

[146] Appellant submission of Australia, para. 90.

logically treated as claims under Article 11 of the DSU and, as New Zealand will demonstrate later in this submission, Australia's claims under Article 11 have no merit and should be rejected. However, since Australia has raised these matters under Article 5.1, New Zealand will respond to them below as well.

(a) Australia does not show any failure to assess materiality or to engage with Dr Deckers' evidence "favourable to Australia"

2.82 First, in the three examples it provides, Australia fails to establish that "the Panel erred when it failed to stand back and assess the materiality of the faults that it found" in the IRA[147] because it failed "to engage with significant evidence of Dr Deckers favourable to Australia".[148]

(i) Dr Deckers' views on "exaggeration" of the estimation of the probability of importation in the IRA have been taken out of context by Australia

2.83 As its first example of the purported failure to assess the materiality of faults in the IRA because the Panel "fail[ed] to engage with significant evidence of Dr Deckers favourable to Australia", Australia refers to a comment made by Dr Deckers at the Panel's meeting of experts.[149] It was 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.[150]

2.84 Australia argues that the Panel "wholly ignored" this statement by Dr Deckers when reaching its conclusion that the IRA's estimation of overall probability of importation was not supported by scientific evidence.[151] This is simply incorrect. The

[147] Appellant submission of Australia, para. 84.

[148] Appellant submission of Australia, para. 90.

[149] Appellant submission of Australia, para. 136.

[150] Transcript of the Panel's meeting with experts, para. 259.

[151] Australia's appellant submission, para. 87.

Panel referred to Dr Deckers' response on page 279 of its report at footnote 1595. Australia later acknowledges this, but describes the Panel's reference as "peremptory and dismissive".[152]

2.85 Dr Deckers' response cannot be regarded as being inconsistent with the Panel's consideration of the IRA's analysis of the probability of importation. As will be explained further below, his other comments in relation to the IRA's conclusions relevant to the likelihood of importation of *E. amylovora* on apples indicate that his views were entirely consistent with the Panel's conclusions in relation to the probability of importation. His response, taken in context, was consistent with his previous answers in relation to the individual importation steps and the overall probability of importation.

2.86 As Australia has acknowledged,[153] Dr Deckers, Dr Paulin and Dr Sgrillo had all expressed doubts as to the IRA's conclusions as to overall probability of importation.[154] Dr Deckers expressed his view that the IRA over-estimated the overall likelihood of importation of *E. amylovora* as well as the likelihood assessed three of the most significant importation steps, 2, 3 and 5.

2.87 Dr Deckers specifically cast doubt on the IRA's assessment in relation to importation step 2.[155] Dr Deckers concluded that the IRA's assessment "doesn't take into account the sporadic character of the fire blight disease."[156] Dr Deckers also noted that "the value of 3×10^{-2} [the midpoint of the IRA's assessment of risk for importation step 2] seems to be a quite high rate of picked fruit being infected with *E. amylovora*."[157] As New Zealand demonstrated, this step accounts for 32% of the apples the IRA concludes would be imported to Australia carrying *E. amylovora*.[158]

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[152] Australia's appellant submission, para. 137.

[153] Australia's comments on New Zealand's comments on the experts' replies to questions, para. 26.

[154] Compilation of expert replies, paras. 231-239.

[155] Compilation of expert replies, para. 176.

[156] Compilation of expert replies, para. 176; Panel Report, paras. 7.272, 7.1157.

[157] Panel Report, para. 7.271; compilation of expert replies, para. 173.

[158] New Zealand's second written submission, Annex 1, p. 318.

2.88 In relation to importation step 3, which New Zealand demonstrated accounts for a further 15.7% of the apples that the IRA concludes would be imported to Australia carrying *E. amylovora*,[159] Dr Deckers also considered that the IRA's conclusion was not sufficiently supported by the scientific evidence. He said "…the overall chance of 1% seems to be rather high when the fire blight infections are only sporadically present in an orchard."[160]

2.89 In relation to importation step 5, which accounts for almost all of the remaining 52.3% of the apples which the IRA claims will arrive in Australia bearing *E. amylovora*,[161] Dr Deckers stated, in his reply to Panel question 30:

> This step in the IRA is not sufficiently in accordance with the standards of the scientific community and the chance that this contamination of apples entering free of EA happens during processing is neglectible [negligible] when the water during processing is disinfected.[162]

2.90 And, in his comments on the IRA's assessment of the overall probability of importation of apples carrying *E. amylovora*, Dr Deckers stated that "this [3.9% mean] is a relative[ly] high percentage and could be overestimated."[163]

2.91 The Panel recognised that, under the IRA's methodology, the overall probability of importation is nothing more than an aggregation of the results at the various importation steps, so flaws in the various importation steps have a cumulative effect on the overall estimation of the probability of importation. The Panel found that the IRA did not attempt to find any independent justification for the estimated overall probability of importation, other than by aggregating the different individual likelihoods represented by

[159] New Zealand's second written submission, Annex 1, p. 318. In its Question 69 after the second substantive meeting, the Panel asked Australia to comment on Annex 1, with specific reference to the accuracy of the numbers used by New Zealand. Australia responded that Annex 1 "provides sufficiently accurate estimates of the median number of infested apples associated with each of the pathways, for the purposes of this dispute": Australia's responses to questions from the Panel and New Zealand after the second substantive meeting, para. 344.

[160] Panel Report, para. 7.288; compilation of expert replies, para. 186.

[161] New Zealand's second written submission, Annex 1, p. 318.

[162] Panel Report, para. 7.318; compilation of expert replies, para. 215.

[163] Panel Report, para. 7.356; compilation of expert replies, para. 237.

each importation step,[164] a finding which Australia has not challenged in this appeal. Because the reasoning supporting those likelihoods was not coherent and objective the Panel found "the overall figure necessarily becomes questionable" and the Panel concluded that the IRA's estimation was not coherent and objective.[165] The testimony of Dr Deckers regarding the flaws at the various importation steps, and his view on the IRA's estimation of the overall probability of importation, are both consistent with the Panel's conclusion.

2.92 Indeed, in relation to the comment now relied upon by Australia, Dr Deckers was not even commenting on the IRA's actual estimation of the overall probability of importation of *E. amylovora*. Instead, Dr Deckers' response, particularly his final sentence, indicates that he was commenting on the "way" in which the IRA "take[s]" the "estimation", by aggregating the probabilities of the individual importation steps. Dr Deckers considered that no *further* exaggeration is caused as a result of the IRA breaking up its assessment of the risk of importation into importation steps and then aggregating its individual conclusions into an overall probability.[166] Such estimation should be, in Dr Deckers' words "as good as possible", but there was nothing about the way in which the IRA broke the analysis into importation steps and then aggregated the probabilities from those steps, in and of itself, that would cause an "exaggerated situation". That is consistent with Dr Deckers' (and Dr Sgrillo's) confirmation in their written replies to Panel questions that, arithmetically, the overall figure of 3.9% is correct, as it results from adding the different individual likelihoods represented by each of the ten potential importation paths.[167]

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[164] Panel Report, para. 7.356, referring to IRA, Part B, p. 80.

[165] Panel Report, paras. 7.355-7.357.

[166] Cf. Dr Paulin's more detailed comment that the exercise of trying to reach an overall likelihood of estimation by estimating individual probabilities for each importation pathway may itself be flawed – compilation of expert replies, paras. 238-239. The Panel set out Dr Paulin's comment at para 7.354 of its Report, but did not resolve this issue.

[167] Panel Report, para. 7.354, referring to compilation of expert replies, paras. 237 and 236. New Zealand notes, in this regard, that Dr Sgrillo stated in his reply "[t]he overall probability results are correct" It is equally clear in context, however, that Dr Sgrillo was merely referring to arithmetical correctness (from adding up the individual probability results to and overall probability result) and that Dr Sgrillo, like Dr Deckers, did not give "testimony favourable to Australia".

2.93 In light of the above, it is hardly surprising that the Panel simply footnoted the answer of Dr Deckers to which Australia refers. It is clear that Dr Deckers' view on the IRA's assessment of the overall probability of importation is consistent with the Panel's conclusion and thus there was no need for the Panel to say anything further.

(ii) The Panel did not ignore Dr Deckers' views on consequences

2.94 The second example of expert testimony Australia claims shows that the Panel "failed to stand back and assess the materiality of the faults that it found" and failed "to engage with significant evidence of Dr Deckers favourable to Australia" is that, according to Australia, the Panel "wholly ignored" Dr Deckers' views on consequences.[168] In fact, the Panel referred to Dr Deckers' response relating to consequences on page 305, footnote 1796 of its Report. Australia also relies on this example in its claim under Article 11 and thus New Zealand will return to the subject of the Panel's consideration of the experts' views on consequences in the section of this submission relating to ground c) of Australia's appeal (see paragraphs 2.227 to 2.235 below).

(iii) Dr Deckers' testimony on limiting apple exports to mature symptomless apples was not favourable to Australia

2.95 As the third example of expert testimony advanced by Australia to support its claim that the Panel failed to assess materiality or "engage with significant evidence" that was favourable to it, Australia cites Dr Deckers' comment that "[t]he limitation of apples exports to mature symptomless apples is not enough to achieve Australia's ALOP."[169] Australia argues this comment manifests "explicit and strong support for the IRA's assessment of unrestricted risk", and that "the IRA's conclusion that the risk associated with mature, symptomless apples exceeds ALOP was, in Dr Deckers' view, sound and sufficiently warranted measures to reduce that risk."[170] Again, Australia claims that the

[168] Appellant submission of Australia, para. 87, referring to compilation of expert replies, para. 85.

[169] Compilation of expert replies, para. 117.

[170] Appellant submission of Australia, para. 89.

Panel "made no reference to", and failed to engage with Dr Deckers' evidence.[171] None of these claims have any foundation.

2.96 New Zealand notes that Dr Deckers' response was not relevant to the Panel's assessment under Article 5.1. Rather, his response was to a question on whether New Zealand's alternative measure would achieve Australia's ALOP.[172] That was only relevant to the Panel's consideration of New Zealand's Article 5.6 claim.[173] That is why the Panel refers to Dr Deckers' response in the section of its report relating to Article 5.6.[174] In that context, following a detailed analysis of the experts' views, the Panel found that "despite the response from Dr Deckers" now relied on by Australia:

> …the Panel finds that the previously cited statements from Dr Deckers and Dr Paulin show that they consider the overall risk of fire blight entry, establishment and spread through mature, symptomless apples imported from New Zealand to be very low – both overall and in regard to specific key points in the import scenario assessed by the IRA.[175]

2.97 Contrary to Australia's claim, Dr Deckers was not commenting on "the IRA's assessment of unrestricted risk" let alone expressing "explicit and strong support" for that assessment. That issue was dealt with in the Panel's analysis under Article 5.1, which concluded that the risk assessment in the IRA was not objectively justifiable.[176] In that section of its report, the Panel carefully weighed all of the experts' comments and based its decision *inter alia* on the fact that:

> …the experts did not consider that the IRA contains adequate scientific evidence to support the proposition that the introduction of fire blight via mature apple fruit has

[171] Ibid.

[172] Question 15, see compilation of expert replies, p. 25.

[173] Apart from the fact that whether New Zealand's alternative measure would be within Australia's ALOP was the fundamental issue for the Panel's determination under Article 5.6, the references given in brackets at the end of the question to New Zealand's and Australia's first written submissions are to arguments made in relation to New Zealand's Article 5.6 claim.

[174] Panel Report, paras. 7.1191-7.1192.

[175] Panel Report, para. 7.1194.

[176] Panel Report, paras. 7.471-7.472. The focus of inquiry under Article 5.1 is whether a risk assessment is objectively justifiable. It is not, as Australia implies, whether the risk may or may not exceed ALOP.

> occurred or could occur. At the same time, they agreed that there is a theoretical possibility of the importation of bacteria with apple fruit. They found it even less likely the further step of transfer from this imported bacterial population to a new plant in Australia.[177]

2.98 Moreover, Australia has mischaracterised Dr Deckers' response to question 15. His response was focused on whether apple fruit may harbour *E. amylovora* bacteria.[178] Dr Deckers went on to state "[f]ruits from heavy infected orchards or from orchards with hail damage can harbour the bacteria in the calyx end of the fruits."[179] Dr Deckers was drawing attention to the fact that restricting imports to mature symptomless apples would not remove the risk that some apples may be imported carrying *E. amylovora* in the calyx. Whether fruit may carry *E. amylovora* relates only to the *importation* of apples with *E. amylovora* on them, not whether *E. amylovora* would be transmitted from those apples to a susceptible host with an infection occurring. As the Panel noted, while Dr Deckers and Dr Paulin "agreed that there is a theoretical possibility of the importation with apple fruit[, t]hey found even less likely the further step of transfer from this imported bacterial population to a new plant in Australia".[180] In any event, Dr Deckers considered that the IRA's conclusions on importation were not supported by scientific evidence, as explained above in paragraphs 2.83 to 2.93. Accordingly, there is no reason why the Panel would refer to that response in reaching its conclusion that the IRA was not "objectively justifiable" under Articles 5.1 and 5.2.[181]

2.99 It follows, in respect of all three of these examples of Dr Deckers' testimony, that Australia has not demonstrated that the Panel failed to stand back and assess the materiality of the faults it found with the IRA. Indeed, it is clear from the Panel's analysis that, throughout, it considered the flaws it found in the IRA's risk assessment

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[177] Panel Report, para. 7.445.

[178] As was Dr Deckers' response to questions 12, 14, and 18 – see compilation of expert replies, paras. 107, 114 and 135-136.

[179] Compilation of expert replies, para. 117.

[180] Panel Report, para. 7.445. See also paras. 2.149-2.153 below.

[181] Cf. appellant submission of Australia, para. 89.

relating to fire blight to be material, whether considered alone or cumulatively.[182] Nor has Australia demonstrated that the Panel failed to engage with any significant evidence of Dr Deckers that was favourable to Australia.

(b) Australia's claim that the Panel erred in relation to its intermediate conclusions is unfounded

2.100 Australia claims that "the Panel's findings that the intermediate conclusions drawn in the course of the IRA's analysis of fire blight are flawed are, in fact, not well founded and the Panel has erred in significant respects."[183] But in respect of this claim too, Australia has failed to establish any "errors of interpretation and application" in the Panel's analysis of the IRA's assessment of fire blight.

(i) Importation step 1 – likelihood *E. amylovora* is present in a source orchard in New Zealand

2.101 Australia makes two criticisms of the Panel's findings in relation to importation step 1. First, Australia claims that the Panel has adopted Dr Paulin's view that the estimate in the IRA has not been shown to be "true", rather than the part of Dr Paulin's testimony relevant to what Australia says is the "correct" question, whether the estimate was "within a legitimate range." Second, Australia claims that the Panel has failed to assess the significance of any over-estimation of importation step 1 either to the overall probability of importation or to the overall assessment of risk. Both of these claims are incorrect.

2.102 In relation to its first criticism, Australia acknowledges that Dr Paulin did not express his support for the IRA's assessment of likelihood for importation step 1. Rather, Dr Paulin indicated that "the chance for apples to be sourced from orchards harbouring *E.amylovora* should be significantly less than one."[184] Australia claims that Dr Paulin's opinion should be qualified, however, by his comment that the reasoning in the IRA is

[182] See above at paras. 2.68-2.69 and below at paras. 2.100-2.181. See also Panel Report, paras. 7.1146-7.1153.

[183] Appellant submission of Australia, para. 91.

[184] Compilation of expert replies, para. 161.

"objective and coherent" and is "based on scientific evidence" though the probability of 1 is "probably a mere exaggeration."[185]

2.103 The context for Dr Paulin's answers was the Panel's question 22. That question had an introductory heading and six sub-questions underneath. The full question was as follows:

> The likelihood assigned to importation step 1 in Australia's IRA is based on the finding that the *E. amylovora* organism can be present in orchards even if disease symptoms are not detected, or the orchard is surrounded by infected alternative hosts.
>
> a. What is the scientific basis contained in the IRA for this finding?
>
> b. Is this finding based on respected and qualified scientific sources?
>
> c. Please comment on whether the reasoning articulated by the IRA on the basis of such scientific evidence, including the methodologies applied, is objective and coherent, and whether the particular conclusions drawn in the IRA find sufficient support in the available scientific evidence?
>
> d. Do the results of the IRA's assessment in this regard sufficiently warrant the challenged requirements related to fire blight?
>
> e. In your view, was it methodologically sound for the IRA Team not to assess any apple producing areas of New Zealand that would be free of *E. amylovora*?
>
> f. Please comment on the probability of 1 contained in the IRA for the presence of *E. amylovora* in the source orchards for importation step 1. Does this probability fall within a range that could be considered legitimate according to the standards of the scientific community and the methodology applied in the IRA? (Emphasis added.)[186]

2.104 Dr Paulin's comments that the reasoning in the IRA is "objective and coherent" and "based on scientific evidence" were directed to the "finding" referred to in the second part of the introductory heading and questions a. and b. (as underlined above), "the finding that the *E. amylovora* organism can be present in orchards even if disease symptoms are not detected, or the orchard is surrounded by infected alternative hosts". Dr Paulin agreed with this "finding", which is uncontroversial. Dr Paulin indicated that "[t]hese two possibilities were well documented"[187] and that "[t]he reasoning seems

[185] Appellant submission of Australia, para. 101.

[186] Compilation of expert replies, pp. 31-33.

[187] Compilation of expert replies, para. 150.

objective and coherent. Each stage is based on scientific evidence."[188] The Panel accepted Dr Paulin's views on that question.[189]

2.105 The issue of contention in relation to importation step 1, however, was whether the IRA's conclusion that *E. amylovora* is present in *every source orchard in New Zealand* found sufficient support in the scientific evidence, leading to a probability of 1 being assessed for this step. Dr Paulin's views on that conclusion, rather than his views on whether *E. amylovora* could be present in symptomless orchards, were the views that were material to the Panel's decision. In respect of *that* conclusion, Dr Paulin stated:

> If the probability of 1 means that all orchards are contaminated by *E. amylovora* each year, it is probably a mere exaggeration. For example the fate of bacterial population in canker is either to disappear (Beer, 1978) or to multiply and produce symptoms. In this later case, the orchard is no longer symptomless. Therefore I would say that each apple orchard symptom-free in New Zealand may be temporarily contaminated by *E. amylovora*, not permanently. Therefore the chance for apples to be sourced from orchards harbouring *E. amylovora* should be significantly less than one.[190]

2.106 The other experts expressed similar views. Dr Schrader said:

> The assumption, that orchards in New Zealand are 100% infested with *E. amylovora* lacks sufficient scientific evidence.[191]

2.107 And Dr Sgrillo said:

> Probability of 1 means that it is absolutely true that fire blight is present and will always be present, in all of New Zealand orchards. The scientific evidence presented in IRA does not guarantee that this is true.[192]

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[188] Compilation of expert replies, para. 152.

[189] Panel Report, para. 7.256: "As noted by Dr Paulin, one of the experts assisting the Panel, the assumption that *Erwinia amylovora* can be present in orchards even if disease symptoms are not detected is well known."

[190] Compilation of expert replies, para. 161.

[191] Compilation of expert replies, para. 162.

[192] Compilation of expert replies, para. 163.

2.108 Accordingly, Australia has failed to establish that Dr Paulin gave any relevant testimony on this question that the Panel failed to take into account.

2.109 New Zealand also rejects Australia's second criticism of the Panel's analysis under importation step 1, that the Panel has failed to assess the significance of any over-estimation of importation step 1 either to the overall probability of importation or to the overall assessment of risk. The Panel noted that "[i]mportation step 1 is a very important starting point for Australia's IRA".[193] An exaggeration in relation to importation step 1 necessarily involves an exaggeration of the overall probability of importation, and therefore of the overall risk. It was not the Panel's role to make findings as to the precise *extent* of the exaggeration, as the Panel was neither required nor permitted to conduct its own risk assessment. However, the Panel considered that this flaw was serious enough to conclude that "the IRA's estimation that *Erwinia amylovora* will always be present in the source orchards is not sufficiently supported by the scientific evidence that the IRA relied upon and, accordingly, is not coherent and objective."[194] In combination with flaws found to exist at other steps in the IRA, the Panel's conclusion in relation to importation step 1 also contributed to a finding that the IRA's estimation of the *overall* probability of importation does not rely on adequate scientific evidence and, accordingly, is not coherent and objective.[195]

2.110 Thus, Australia has not established any errors of interpretation and application by the Panel in relation to importation step 1 for fire blight.

(ii) Importation step 2 – likelihood that picked fruit is infested/infected with *E. amylovora*

2.111 Australia advances four criticisms of the Panel's analysis of the IRA's conclusions under importation step 2 for fire blight, namely that the Panel:

[193] Panel Report, paras. 7.257 and 7.1145(a). See also Dr Paulin's comment "relevance of step 1 is major for the risk assessment": compilation of expert replies, para. 166.

[194] Panel Report, para. 7.259.

[195] Panel Report, para. 7.357.

a) failed to adhere to Appellate Body guidance that scientific uncertainty or inconclusiveness "does not excuse the risk assessor from evaluating the risk";

b) "erroneously assumed that the IRA 'aggregated' the results of the different studies";

c) failed to ask itself the "correct question whether the judgement made was within a range that could be considered legitimate according to the standards of the scientific community"; and

d) failed to assess the significance of any over-estimation of importation step 2 either to the overall probability of importation or to the overall assessment of risk.[196]

2.112 None of Australia's claims have any merit.

2.113 First, in its assessment of the IRA's conclusions under importation step 2, the Panel did not disregard the need for Australia to evaluate the risk. The Panel was nevertheless aware that uncertainty or inconclusiveness does not excuse non-compliance with the SPS Agreement. What is surprising, however, is Australia's reference in its appeal to scientific uncertainty or inconclusiveness, given its previous claim that there is no uncertainty or inconclusiveness in connection with importation step 2. The IRA states that "[t]here is a large volume of published technical information relating to this step in the pathway."[197] And, in its opening statement at the second meeting, Australia said "[o]nly 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."[198] Australia repeated this point in its closing statement.[199]

[196] Appellant submission of Australia, para. 105.

[197] IRA, Part B, p. 55.

[198] Australia's opening statement from the second substantive meeting, para. 73.

[199] As recorded at para. 4.494 of the Panel Report.

2.114 Second, the Panel did not "erroneously assume[] that the IRA 'aggregated' the results of the different studies" considered under importation step 2.[200] Rather, the Panel said that "it is not clear from the IRA how the results of the different studies were aggregated in order to arrive at an estimation of a probability range for this importation step."[201] "Aggregated" in this context simply means "collected together". The Panel was simply explaining that the IRA did not indicate transparently how the scientific data from a range of disparate studies was used to reach the IRA's estimation of the likelihood that fruit coming from an infected or infested orchard is infected or infested with *E. amylovora*. That meant that the Panel could not regard the IRA's estimation as coherent and objective.[202]

2.115 Third, the Panel did not fail to ask itself the "correct question, namely whether the judgement made was within a range that could be considered legitimate according to the standards of the scientific community." As has been pointed out earlier, there is no basis for this new gloss on the Appellate Body's comments in *US/Canada – Continued Suspension.* But, even if this new Australian test were to be applied, the Panel, in reviewing the IRA for consistency with Article 5.1, made factual findings that would satisfy the test. The Panel specifically stated that "it is not possible to find justification from these studies for the probability range assigned to importation step 2 by the IRA."[203]

2.116 Finally, the Panel did not fail to assess the significance of any over-estimation of importation step 2 either to the overall probability of importation or to the overall assessment of risk.[204] Once again Australia is suggesting that the Panel should have conducted its own risk assessment, something the Panel was neither required nor permitted to do.[205] Nor, it should be added, would the Panel have been capable of re-assessing the materiality of the risk itself in quantitative terms. A precise assessment of

[200] Appellant submission of Australia, para. 103.

[201] Panel Report, para. 7.274.

[202] Panel Report, para. 7.275.

[203] Panel Report, para. 7.274.

[204] Cf. appellant submission of Australia, para. 103.

[205] See, for example, Australia's second written submission, para 318: "Panels are not mandated to conduct a *de novo* review…".

materiality at each step requires a sensitivity analysis to be carried out, which is clearly beyond what is required of a Panel in reviewing a risk assessment. Indeed, even if such an analysis were appropriate, Australia failed to provide the information that would have allowed it to be conducted.[206] But as New Zealand demonstrated, in relative terms the significance of over-estimation of importation step 2 is major – importation step 2 accounts for 32% of the overall probability of importation of apples bearing *E. amylovora*, as assessed by the IRA.[207] Moreover, the Panel correctly considered the cumulative effects of the various flaws in the IRA in concluding that the IRA's estimation of the overall probability of importation was not coherent and objective.[208]

(iii) Importation step 3 – likelihood that clean fruit is contaminated by *E. amylovora* during picking and transport to the packing house

2.117 Australia claims that the Panel erred in its finding on importation step 3, by:

a) "overlooking the practical necessity for a risk assessor to make a judgement even when confronted by limited scientific evidence";

b) relying upon the experts' own views that probability of contamination 'seems to be rather high' rather than whether the estimate is within a range that can be considered legitimate according to the standards of the scientific community; and

c) failing to assess the significance of any over-estimation of importation step 3 either to the overall probability of importation or to the overall assessment of risk.[209]

[206] Australia declined to provide a full breakdown of figures in answer to the Panel's question: "Can Australia describe the relevant population (in terms of both number and characteristics, such as whether apples are infected or not) at each stage of its assessment of the probability of entry, establishment and spread for the three pests at issue." See Australia's responses to questions from the Panel and New Zealand after the second substantive meeting, para. 288.

[207] New Zealand's second written submission, Annex 1, p. 318.

[208] Panel Report, para. 7.357.

[209] Appellant submission of Australia, para. 105.

2.118 Again, none of these claims have any merit.

a. The Panel did not overlook the practical necessity for a risk assessor to make a judgement even when confronted by limited scientific evidence

2.119 First, in claiming that the Panel erred by "overlooking the practical necessity for a risk assessor to make a judgement even when confronted by limited scientific evidence,"[210] Australia appears to have misunderstood the Panel's decision. The Panel did not conclude that Australia was precluded by lack of scientific evidence from reaching *any* conclusion in relation to this importation step. Rather, the Panel concluded that the IRA's estimation of the likelihood that clean fruit from infected or infested orchards is contaminated with *E. amylovora* during picking and transport to the packing house does not rely on adequate scientific evidence and, accordingly, is not coherent and objective.[211]

2.120 On this topic, the Panel referred to a reply from Dr Sgrillo.[212] In it, he noted that "the scientific evidence is scarce, coming mainly from two papers."[213] Dr Sgrillo then pointed out that one of the papers relied upon was unreliable because "the sample size was small, the variability was not assessed and the results are valid only for artificially injured fruits."[214] The other paper relied upon, as Dr Sgrillo noted, was only a four paragraph abstract which lacked "details about the methodology and analysis of the results."[215]

2.121 The Panel therefore concluded that these two studies had "important limitations", that they "cannot constitute an adequate scientific basis for a coherent and objective analysis" and, accordingly, that the IRA's estimation of the likelihood that clean fruit from infected or infested orchards is contaminated with *Erwinia amylovora* during picking and transport to the packing house does not rely on adequate scientific

[210] Australia's appellant submission, para. 105.

[211] Panel Report, para. 7.290.

[212] Panel Report, footnote 1508, citing compilation of expert replies, paras. 179-195.

[213] Ibid, para. 179.

[214] Ibid, para. 180.

[215] Ibid, para. 182.

evidence and, accordingly, is not coherent and objective.[216] Rather than saying that Australia "should not have made a judgement", the Panel was simply applying the requirement that the judgements made in the IRA need to be objectively justifiable.

b. Australia's 'legitimate range' test is not the law and in any event does not assist it

2.122 Second, in relation to its claim that the Panel erred by relying upon the experts' own views that the IRA's assessment of the probability of contamination in importation step 3 "seems to be rather high", rather than whether the estimate is within a legitimate range,[217] Australia is seeking to introduce a new test which, as has been pointed out, has no basis in the law. In any event, Australia appears to have forgotten that the experts indicated that they considered that Australia's estimate did not fall within a legitimate range.[218]

2.123 Indeed, it is surprising that Australia makes such a claim now given that, in its comments to the Panel on the experts' replies to questions, Australia said nothing about the experts' answers in relation to importation step 3.[219] There was no suggestion by Australia that the experts had not answered the question adequately; nor did Australia make any such suggestion in its comments on New Zealand's comments.[220] Rather, as New Zealand pointed out, the experts' responses clearly indicated that the IRA's conclusion in relation to this step is not sufficiently supported by the scientific evidence.[221]

[216] Panel Report, para 7.290.

[217] Appellant submission of Australia, para. 105.

[218] Compilation of expert replies, paras. 186-188.

[219] As New Zealand pointed out in its comments on Australia's comments on the experts' replies to questions, para. 42.

[220] Australia's comments on New Zealand's comments on the experts' replies to questions, paras. 13-16.

[221] New Zealand's comments on Australia's comments on the experts' replies to questions, para. 42.

c. The Panel was not required to conduct its own risk assessment, but was clearly aware importation step 3 is 'material'

2.124 Finally, Australia asserts that the Panel failed to assess the significance of any over-estimation of importation step 3 either to the overall probability of importation or to the overall assessment of risk.[222] Once again, this is a claim by Australia that the Panel should have conducted its own risk assessment, something which the Panel had no mandate to do (and did not do). In any event, it is clear that the Panel was aware that importation step 3 is 'material'. Given that this step contributes 15.7% of the apples the IRA concludes will enter Australia with *E. amylovora* on them, [223] there can be no doubt that it was 'material'. Moreover, the Panel correctly considered the cumulative effects of the various flaws in the IRA to conclude that the IRA's estimation of the overall probability of importation was not coherent and objective.[224]

(iv) Importation step 5 – likelihood that clean fruit is contaminated by *E. amylovora* during processing in the packing house

2.125 Australia once again claims that the Panel erred by failing to ask itself the correct question, namely whether the estimate of likelihood for importation step 5 in the IRA was outside a range that could be considered legitimate according to the standards of the scientific community. Australia also claims that the Panel "failed to assess the significance of any overestimation of Importation step 5 either to the overall probability of importation or to the overall assessment of risk".[225] Neither criticism can be supported.

2.126 Australia's first criticism fails to reflect the Panel's conclusions on this importation step accurately. The Panel concluded that the IRA fails to indicate how the results of the scientific studies referred to under this step were taken into account in arriving at an estimation of a probability range for this importation step.[226] In particular,

[222] Appellant submission of Australia, para. 105.

[223] New Zealand's second written submission, Annex 1, p. 318.

[224] Panel Report, para. 7.357.

[225] Appellant submission of Australia, para. 106.

[226] Panel Report, para. 7.320.

the Panel concluded that the IRA fails to explain adequately why it seemingly disregards two relevant studies.[227] In addition, the Panel refers to the experts' comments that the IRA's estimation for this step was "strongly exaggerated".[228] In other words, the Panel considered that there was no indication in the IRA of the link between the scientific evidence relied upon, and the conclusions reached. That is why the Panel concluded that the IRA's estimation of the likelihood that clean fruit is contaminated by *E. amylovora* during processing in the packing house is not coherent and objective.[229] Even if Australia's new 'legitimate range' test were to be applied in relation to the Panel's findings on importation step 5, it would not have solved the fundamental problem, which was that the IRA does not explain how its conclusions were supported by the scientific evidence relied upon.

2.127 Australia's second criticism, that the Panel "failed to assess the significance of any over-estimation of Importation step 5 either to the overall probability of importation or to the overall assessment of risk", should also be dismissed.[230] The Panel was not required to conduct its own risk assessment as part of assessing whether the IRA complies with Article 5.1. In any event, it is clear that the Panel was aware that that importation step 5 is material. As New Zealand pointed out in its second written submission, the IRA's "pathway 7", which relies on Australia's conclusions about clean fruit being contaminated in the packing house in importation step 5, is the biggest single contributor to Australia's conclusion as to the probability of entry of *E. amylovora* according to the risk model developed in the IRA, accounting for 52.3% of the probability of entry.[231]

2.128 Overall then, a strong sense of the potential materiality of exaggerations in relation to importation steps 2, 3 and 5 can be derived from the fact that these three steps,

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[227] Panel Report, para. 7.318.

[228] Panel Report, para. 7.318, citing Compilation of expert replies, paras. 211-216; Transcript of the Panel's meeting with experts, para. 341.

[229] Panel Report, para. 7.320.

[230] Appellant submission of Australia, para. 106.

[231] New Zealand's second written submission, para. 2.427 and Annex 1, p. 318.

in total, account for almost 100% of the apples which the IRA concludes will be imported into Australia bearing *E. amylovora*.[232]

(v) Importation step 7 – likelihood that clean fruit is contaminated by *E. amylovora* during palletisation, quality inspection, containerisation and transportation

2.129 Australia renews its claim that the Panel's reasoning under importation step 7 illustrates its failure to ask itself "the correct question", namely whether the estimate for importation step 7 was within a range that is legitimate according to the standards of the scientific community.[233] Australia also argues in its appeal that the Panel failed to "pause to assess the significance of any over-estimation of importation step 7 either to the overall probability of importation or to the overall assessment of risk."[234] Neither claim can be supported.

2.130 As New Zealand has already pointed out, Australia's "legitimate range" test is not "the correct question". The Panel's analysis was instead properly focused on assessing whether the IRA's conclusion in relation to importation step 7 finds sufficient support in the scientific evidence. It noted that Dr Deckers and Dr Paulin had both highlighted that internally infected mature fruits are not able to produce bacterial ooze.[235] The IRA itself confirmed that immature fruits (the only fruits capable of producing ooze) would have been discarded well before this step and before entering the packing line.[236] The Panel next noted that the IRA does not contain any scientific evidence that external pollution can happen as described in this importation step, except in the case of oozing fruits.[237] Indeed, as the Panel went on to find, the only reference to any scientific evidence at all in the IRA's analysis concerning importation step 7 related to a discredited

[232] New Zealand's second written submission, Annex 1, p. 318. See also footnote 159 above.

[233] Appellant submission of Australia, para. 107.

[234] Appellant submission of Australia, para. 108.

[235] Panel Report, para. 7.340.

[236] Ibid.

[237] Panel Report, para. 7.341, referring to the experts' replies to Panel question 32, compilation of expert replies, pp. 44-45.

scientific study, van der Zwet *et al.* (1990) the reliability and appropriateness of which was limited.[238]

2.131 Accordingly, the Panel considered the IRA's conclusion that the likelihood of the event represented by importation step 7 was "negligible" was coherent and objective based on the IRA's own *qualitative* definition that "the event would almost certainly not occur."[239] But the Panel did not consider that the evidence would support the IRA's *corresponding semi-quantitative* probability interval of 0 to 10^{-6}. In that regard, the Panel referred to its general consideration of whether the IRA's choice of an interval of 0 to 10^{-6} for events with a "negligible" likelihood of occurring is in itself coherent and objective.[240]

2.132 Australia's argument that the Panel failed to "pause to assess the significance of any over-estimation of importation step 7 either to the overall probability of importation or to the overall assessment of risk" should also be rejected.[241] That was not a question the Panel was required to ask. In its analysis the Panel asked itself the correct question, namely whether the scientific evidence supported the IRA's conclusion, that contamination of clean fruit during palletisation, quality inspection, containerisation and transportation has a most likely value of 72 events per year.[242]

2.133 Australia asserts that "the contribution made by importation step 7 to the overall probability of importation is several orders of magnitude less than could be considered material".[243] This assertion ignores the cumulative effect of minor flaws or misconceptions at a detailed level.[244] Moreover, it is simply not credible for Australia to

[238] Panel Report, paras. 7.341, 7.285, 7.270.

[239] Panel Report, para 7.342. The definition of "negligible" is in the IRA, Part B, Table 12, p. 43.

[240] Panel Report, para. 7.342.

[241] Appellant Submission of Australia, para. 108.

[242] See Appellant submission of Australia, para. 108.

[243] Ibid.

[244] Panel Report, para. 7.228.

imply that something assessed by the IRA as likely to occur 72 times per year could equate to an "event [which] would almost certainly not occur."[245]

(vi) Exposure

2.134 Australia claims that the Panel "overlooked that while there may be lacking direct scientific evidence on specific mechanisms of transfer, it is established that *transfer itself* can occur."[246] Further, Australia claims that the Panel asked itself the wrong question by making its finding on exposure without giving any consideration to the range of estimates that would be considered legitimate according to the standards of the scientific community, instead, displacing the judgement made in the IRA in favour of its own assessment of a value "commensurate to the extremely low likelihood". In doing so, Australia claims, the Panel "overlooked…the very important evidence of Dr Deckers to the effect that the estimate in relation to exposure "is true".[247] Each of these claims is without foundation.

a. The Panel was not required to apply Australia's 'legitimate range' test in reviewing the IRA's conclusions as to the likelihood of exposure

2.135 First, the Panel applied the correct standard of review in its assessment of the fire blight exposure stage, namely assessing whether the particular conclusions in the IRA find sufficient support in the scientific evidence.[248] In relation to the Panel's conclusion on transfer mechanisms for *E. amylovora* (the conclusion specifically attacked by Australia in its appellant submission),[249] the Panel found that "[t]he IRA cites no evidence for its proposition of a mechanical transmission of fire blight bacteria".[250]

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[245] Which Australia does according to the definition of "negligible" in the IRA, Part B, Table 12, p. 43.

[246] Appellant submission of Australia, para. 110 (emphasis in original).

[247] Ibid.

[248] Panel Report, paras. 7.381-7.417.

[249] Appellant submission of Australia, para. 110.

[250] Panel Report, para. 7.399. The IRA's exposure conclusions postulated two hypothetical transfer scenarios – mechanical transmission through workers and equipment and insect mediated transmission. See IRA, Part B, pp. 87-88.

2.136 Likewise, the Panel found that "[t]he scientific literature does not consider browsing insects to be a factor in the spread of fire blight from apples on the ground to new host plants".[251] The Panel acknowledged, by reference to the views of the experts, that "[t]he browsing insects scenario, however, is based on events that cannot be completely dismissed."[252] Thus, contrary to Australia's claim, it was not "established that *transfer itself* can occur."[253] Rather, in the testimony to which Australia refers, the experts were merely confirming that transmission of *E. amylovora* to a susceptible host via insects feeding on discarded apples is not "impossible". Both of the fire blight experts referred to such transfer no more highly than as "a possibility". Dr Paulin emphasised that "[i]t doesn't mean that it happened".[254] And Dr Deckers referred to transfer as "a possibility which can never be excluded 100 per cent."[255] Indeed, when specifically asked to comment on whether the values presented in the section of the IRA headed "Exposure" were sufficiently supported by the available scientific evidence,[256] Dr Deckers replied:

> For this aspect there is no sufficient scientific data available that describes the likelihood of this transfer possibility.[257]

2.137 Dr Paulin's response to the same question was:

> In this section only some fragments of events are supported by scientific evidence. Very often suppositions or speculations are proposed rather than certitudes, just because these problems have never been addressed scientifically (or at least experimentally). As a consequence, I do not see how it is possible to rely objectively on any figure for the likelihood of this "exposure" step.[258]

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[251] Panel Report, para. 7.402.

[252] Panel Report, para. 7.403.

[253] Cf. appellant submission of Australia, para. 110.

[254] Transcript of the Panel's meeting with experts, para. 254.

[255] Transcript of the Panel's meeting with experts, para. 255.

[256] Question 36, see compilation of expert replies, p. 48.

[257] Compilation of expert replies, para. 245.

[258] Compilation of expert replies, para. 246.

2.138 In other words, the Panel did not "overlook" that "it is established that *transfer itself* can occur".[259] To the contrary, the Panel found, in light of the experts' responses, that the scientific evidence *does not establish* that transfer can occur. That transfer is a theoretical possibility that cannot be completely dismissed (or, in the Panel's words, is "not totally unreasonable"[260]) is not sufficient to justify the IRA's exposure conclusions.

b. The Panel did not displace the IRA's judgement in favour of its own assessment of a value

2.139 Second, the Panel did not "displace[] the judgement made in the IRA in favour of its own unexpressed, but implicit, assessment of a value 'commensurate to the extremely low likelihood'."[261] Rather, the Panel concluded that the IRA's conclusions do not rely on adequate scientific evidence and, accordingly, are not coherent and objective.

2.140 This time, Australia appears to be criticising the Panel for doing precisely what it elsewhere accuses the Panel of *not* doing – namely conducting a *de novo* risk assessment, something the Panel was neither required not permitted to do. But the Panel was not carrying out its own risk assessment. Rather, the Panel was indicating in this part of its Report that that the value assigned to the likelihood of transfer itself needed to be objective and coherent.

2.141 Ultimately, the Panel concluded that:

a) the IRA's conclusions on the transfer mechanisms are not supported by scientific evidence;[262] and

b) the IRA's overall conclusions on exposure "do not rely on adequate scientific evidence and, accordingly, are not coherent and objective".[263]

[259] Cf. appellant submission of Australia, para. 110.

[260] Panel Report, para. 7.417.

[261] Ibid.

[262] Panel Report, para. 7.403.

[263] Panel Report, para. 7.417.

2.142 In addition, in its section on methodology, the Panel concluded that the use of a probability interval of 0 to 10^{-6} for events with a negligible likelihood of occurring, and its use of a uniform distribution resulting in a midpoint of 5 x 10^{-7}, to model the likelihood of such events, are not properly justified in the IRA.[264]

2.143 Accordingly, there is no basis for Australia's assertion that the Panel has made its own assessment of a value "commensurate to the extremely low likelihood".[265]

c. The Panel did not overlook Dr Deckers' evidence

2.144 Third, Australia has taken Dr Deckers' evidence out of context when it claims he indicated that the "IRA's estimate in relation to exposure "is true".[266]

2.145 Dr Deckers is not an expert in risk assessment methodology. He refrained from answering the risk assessment questions posed by the Panel, as follows:

> **I DON'T FEEL AN EXPERT FOR THESE QUESTIONS ON RISK ASSESSMENT, AND THEREFORE I PREFER NOT TO FORMULATE ANSWERS TO MOST OF THESE QUESTIONS.** (Original emphasis.)[267]

2.146 Amongst the risk assessment questions which Dr Deckers refrained from answering were questions that dealt directly with the appropriateness of the interval 0 to 10^{-6} (the interval used by the IRA for the exposure estimation).[268]

2.147 In the statement now being relied upon by Australia, there is no suggestion that Dr Deckers was paying regard to the meaning of the interval used for the exposure estimation in the context of the IRA's methodology, or to the fact that a uniform distribution was being used in the IRA. Rather, Australia lifts out of context his casual

[264] Panel Report, para. 7.508.

[265] Cf. appellant submission of Australia, para. 110.

[266] Appellant submission of Australia, para. 110, referring to transcript of the Panel's meeting with the experts, paras. 296-297.

[267] Dr Deckers' replies to questions posed by the Panel, p. 41. This response has been accidentally omitted from the compilation of expert replies at Annex B-1 of the Panel Report.

[268] See, in particular, questions 133-136, in compilation of expert replies, pp. 142-150.

comment to the effect that both the chance of transfer and the interval used in the IRA are very low ("this is true"). Dr Deckers' comment merely confirms that the correct likelihood will be *somewhere* in the range of 0 to 10^{-6}, a proposition with which New Zealand would agree. His reply cannot be read as confirming that the interval between zero and the maximum value, one in a million, or the midpoint of the interval (one in two million), were appropriate, nor that the uniform distribution was appropriately used to model the probability of exposure. The context makes it clear that Dr Deckers simply did not turn his mind to the question of what was the correct number to be applied in the IRA in respect of an event with a negligible likelihood.

2.148 The Panel drew on the responses of the experts who did respond to the risk assessment questions, in concluding that the choice of the interval 0 to 10^{-6}, in combination with a uniform distribution to model negligible likelihoods: "magnify the assessment of risk, turning what are often the remotest of possibilities into events that are assessed as occurring with some frequency."[269]

2.149 Moreover, based on their testimony overall, Dr Deckers and Dr Paulin were properly regarded by the Panel as being "sceptical of the estimations for the exposure likelihood".[270] Indeed, Australia itself had previously accepted that Dr Deckers, Dr Paulin and Dr Sgrillo were all "of the view that the overall exposure value in the Final IRA Report was not supported by scientific evidence" and that "Dr Deckers and Dr Paulin suggest that elements of the exposure analysis appear to be without scientific support".[271]

2.150 In any event, in its analysis of the IRA's conclusions in relation to exposure, the Panel was not carrying out its own risk assessment. Elsewhere in its submission Australia accepts that the Panel was not mandated to determine the *correctness* of Australia's risk assessment.[272] This is true. Rather, the Panel discharged its role to

[269] Panel Report, para. 7.508.

[270] Panel Report, para. 7.442.

[271] Australia's comments on the experts' replies to question 36, para. 113.

[272] Appellant submission of Australia, para. 95.

review whether the IRA's conclusions in relation to exposure found sufficient support in the scientific evidence and accordingly, whether they were coherent and objective.[273]

2.151 Dr Deckers' (and the other experts') written answers to question 36 were relevant to this question, in contrast to Dr Deckers' oral comment now highlighted in Australia's appeal, and were referred to extensively by the Panel. In reaching its conclusions in relation to the IRA's exposure assessment, the Panel had regard to the following relevant written answers from the experts:[274]

- Dr Deckers: "there is no sufficient scientific data available that describes the likelihood of this transfer possibility."[275]
- Dr Sgrillo: "the scientific evidence presented does not support the conclusions because there are no factual data to validate the hypothesis".[276]
- Dr Paulin: "only some fragments of events are supported by scientific evidence. Very often suppositions or speculations are proposed rather than certitudes."[277]
- Dr Paulin: "[t]he spread of surface population from fruit to infection sites is similarly hard to imagine."[278]
- Dr Paulin: "[a]ll this cannot be considered to constitute an evidence."[279]

[273] See, eg, Panel Report, para. 7.417.

[274] Panel Report, para. 7.442.

[275] Panel Report, para. 7.442, citing compilation of expert replies, para. 245; Panel Report, paras. 7.401, 7.405.

[276] Panel Report, p. 299, footnote 1748, citing compilation of expert replies, para. 249. Dr Sgrillo, who was a risk assessment methodology specialist, also noted that a maximum exposure value of 10^{-14} (which is 100 million times lower than the maximum value of 10^{-6} used to model negligible events in the IRA) would be "more appropriate to represent an event that has never been reported to occur."

[277] Panel Report, para. 7.442, citing compilation of expert replies, para. 246.

[278] Compilation of expert replies, para. 191.

[279] Compilation of expert replies, para. 141.

2.152 The Panel also had regard for the following oral answers by the experts, which were relevant to the issue of whether the IRA's exposure assessment is objective and coherent:

- Dr Deckers: "you have no proof available that this transfer can occur. So it is indeed speculation with, for me, a low level of likelihood to be a reality".[280]

- Dr Paulin: "[w]e 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. For me, because I am not a risk assessment man, I think I have found it difficult to place a figure on these judgements which are just human judgements, not based on biological data. I am a biologist."[281]

2.153 Accordingly, for the reasons outlined, by taking it out of context Australia has misrepresented Dr Deckers' evidence in relation to the exposure estimate. The Panel did not overlook his evidence, but had proper regard for it in the context of the question, and the other relevant expert evidence before it. The weight to give that evidence was for the Panel itself to determine as trier of fact.

(vii) Use of uniform distribution

2.154 Australia also criticises the Panel's conclusion that the IRA's use of the uniform distribution was unjustified.[282] Australia again asserts that the Panel failed to ask whether the decision to use a uniform distribution was within a "legitimate range of available judgements". Australia claims the Panel instead asked "whether the judgement was the correct or preferable one".[283] Specifically, Australia asserts that the Panel failed to assess

[280] Panel Report, para. 7.442, citing compilation of expert replies, para. 242.

[281] Panel Report, para. 7.442, citing transcript of the Panel's meeting with the experts, para. 240.

[282] Appellant submission of Australia, para. 111.

[283] Ibid.

"the significance of Dr Schrader's testimony that a uniform distribution is useful when there is insufficient information to estimate a most likely value."[284]

2.155 On this point, Australia is wrong again – the Panel *did* assess Dr Schrader's testimony on this question.[285] The Panel also noted Australia's argument that "uniform distributions may be appropriately used, as stated by Dr Schrader."[286] However, Australia overstates the relevance of this portion of Dr Schrader's testimony to the conclusion the Panel ultimately reached.

2.156 First, Australia implies that Dr Schrader expressed the view that the uniform distribution would be "useful" in estimating the likelihood of exposure *in the present case*. She did not. Rather, her comments were in response to a general question comparing the uniform distribution with other distributions when modelling events that have a low or even "negligible" likelihood of occurring.[287] Her comments were not specific to the facts of the present case. Nor did her comments relate to the exposure step in the IRA. And, with respect to risk assessment methodology, Dr Schrader chose to answer only questions of a general nature, and not those directed specifically at the distributions used in the IRA.[288] In the Panel's meeting with experts, Dr Schrader explained that her experience was with qualitative risk assessment and "[t]his is also why I cannot really give answers to all these statistical questions."[289]

2.157 Further, when Dr Schrader's full response to Panel question 135 is reviewed, it is apparent that Australia has overstated her comment that a uniform distribution is "useful". Rather, Dr Schrader's general comment about the "usefulness" of the uniform distribution was, in fact, heavily qualified. She described the uniform distribution as "the

[284] Ibid.

[285] Panel Report, para. 7.492, referring to Dr Schrader's reply to Panel question 135.

[286] Panel Report, para. 7.491.

[287] Compilation of expert replies, Question 135.

[288] Dr Schrader chose not to respond to questions 133, 134 and 136, which were all directed at the appropriateness of the intervals used in the IRA and, in particular, the interval 0 to 10^{-6}.

[289] Transcript of the Panel's meeting with experts, para. 187.

simplest and least realistic of the three methods mentioned".[290] Her comment that the uniform distribution was "useful" was a general statement that it was "useful in situations, *where a minimum and maximum value are available*, but no sufficient information to determine the most likely value."[291] Australia, in this part of its appellant submission, omits to refer to these qualifications that Dr Schrader herself placed on her general comment about usefulness.

2.158 Dr Schrader's general comment about the "usefulness" of a uniform distribution, which relies on the existence of a properly justified maximum value, could not have applied in the present case where, as the Panel found, the maximum value was not properly justified.[292] And Dr Schrader also pointed out that the uniform distribution, while easy to calculate and generate, is limited with regard to modelling real-world outcomes.[293]

2.159 Moreover, contrary to Australia's appellant submission, the Panel did not place "determinative weight on Dr Sgrillo's testimony that a uniform distribution would have been more appropriate".[294] Having found that "[t]he use of a uniform distribution with a maximum of one in a million results in the likelihood of so-called 'negligible' events estimated to occur more frequently than, according to the IRA's qualitative descriptors, they should be expected to occur (i.e., the events 'would almost certainly not occur')",[295] the Panel referred to Dr Sgrillo's testimony to illustrate an alternative approach that might have avoided overestimating the likelihood of "negligible events".[296] But the Panel did not base its finding on whether the "negligible" interval and distribution was the "correct or preferable one". Rather, the Panel's finding was that the IRA's "negligible"

[290] Compilation of expert replies, para. 781.

[291] Ibid (emphasis added).

[292] Panel Report, paras. 7.481, 7.495.

[293] Compilation of expert replies, para. 782 (emphasis in original).

[294] Appellant submission of Australia, para. 111.

[295] Panel Report, para. 7.495.

[296] Ibid.

interval and distribution is not adequately justified and would tend to overestimate the risk.[297]

2.160 Accordingly, in its assessment of the IRA's use of the uniform distribution in combination with the interval 0 to 10^{-6}, the Panel did ask itself the correct question. The Panel concluded that such an approach was not adequately justified and would tend to overestimate likelihood, essentially because a uniform distribution tends to give equal weight to all numbers, instead of clustering closer to zero, which the experts explained would be more appropriate in the case of events with a "negligible" likelihood in the biological world.[298] This meant numbers in the higher end of the range were over-represented. Accordingly, the IRA's use of a uniform distribution was not properly justified.[299] Equally, the decision by the IRA Team to use it could hardly be regarded as within a "legitimate range of available judgements".[300]

(viii) Spread

2.161 Australia claims that the Panel erred in its findings regarding the probability of spread because it erred in relation to its assessment of the exposure step.[301] Since, as pointed out above at paragraphs 2.134-2.153, the Panel did not err in its findings on exposure, this claim is ill-founded.

(ix) Establishment

2.162 Australia claims that the Panel failed "to ask the correct question whether (notwithstanding any differences between laboratory and natural conditions) the IRA's estimate of the probability of establishment was within a range that could be considered legitimate according to the standards of the scientific community."[302]

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[297] Panel Report, para. 7.496.

[298] Panel Report, para. 7.495.

[299] Panel Report, paras. 7.496, 7.780, 7.1151, 7.1196, 7.1205, 7.1251.

[300] Cf. appellant submission of Australia, para. 111.

[301] Appellant submission of Australia, para. 112.

[302] Appellant submission of Australia, para. 113.

2.163 Again, Australia is applying the wrong test. The correct test is whether the IRA's conclusion as to the probability of establishment finds sufficient support in the scientific evidence relied upon and is thus objective and coherent. The Panel concluded that it did not:

> The IRA's discussion on the minimum population needed for establishment reflects an assumption that has already been addressed by the Panel, regarding the alleged capacity of such low bacterial populations to initiate an infection. This assumption is an important factor in any conclusion regarding the probability of establishment of fire blight. It has been found by the Panel not to be supported by scientific evidence nor based on a coherent and objective reasoning.[303]

2.164 As recognised by Australia, the Panel addressed the topic of establishment in the context of its findings on inoculum dose.[304] While the Panel did consider that the IRA's *discussion* on inoculum dose is supported by adequate evidence and is generally coherent, ultimately the IRA's *conclusions* in relation to inoculum dose were found not to have sufficient support in the scientific evidence.[305]

2.165 The essential problem with the IRA's conclusions was that, in Dr Paulin's words, they gave "*very few useful indications* for the description of events taking place in natural conditions",[306] and there was no guarantee that multiplication rates obtained in the laboratory will be replicated in the orchard.[307]

2.166 Moreover, as Dr Sgrillo stated, "…the probability of establishment is a function of the initial population size. The dose-response curve may present a threshold for the inoculums concentration, below which no infection will occur."[308] The Panel also made reference to Dr Sgrillo's statement that "there is a threshold of bacteria population below

[303] Panel Report, para. 7.420.

[304] Panel Report, paras. 7.404-7.408.

[305] Panel Report, para. 7.408.

[306] Panel Report, para. 7.405, citing compilation of expert replies, paras. 190-191 (original emphasis).

[307] Panel Report, para. 7.407, citing compilation of expert replies, paras. 262-263 (original emphasis).

[308] Panel Report, para. 7.406, citing compilation of expert replies, paras. 197-200.

which it is almost the same thing as no bacteria, because it needs a greater number to initiate an infection."[309]

2.167 Having failed to assess what would occur in natural conditions, or the capacity of low bacterial populations to initiate an infection, the IRA's conclusions could hardly be regarded as being within a 'legitimate range', even if that were the correct test.

(x) Consequences

2.168 Australia claims that, in its assessment of the IRA's conclusions in relation to the consequences of fire blight, "the Panel has held the IRA's assessment of consequences to a scientific standard of satisfaction", which has involved "undue reliance upon the scientific aspects of the evidence", without taking into account economic factors.[310] This failure, Australia says, is evidenced by the Panel's not considering, or even mentioning, the economic evidence of actual production losses shown to have been caused by outbreaks of fire blight at Hawke's Bay in New Zealand 1998 and in Michigan in the United States in 2000.[311]

2.169 Australia also claims that the Panel failed to ask whether the overall assessment of consequences made by the IRA falls within a range that could be considered legitimate. This, Australia claims, is evident from the Panel's failure to assess the significance of, and even that it "overlooked", Dr Paulin's and Dr Deckers' respective views that the consequences could properly be assessed as "high".[312]

2.170 Neither of Australia's claims has any foundation.

a. The Panel did not fail to have regard to any relevant economic evidence

2.171 First, Australia is incorrect in saying that the Panel did not consider or even mention the economic evidence of actual production losses shown to have been caused

[309] Panel Report, footnote 1686, referring to Dr Sgrillo's reply in transcript of the Panel's meeting with experts, para. 287.

[310] Appellant submission of Australia, para. 115.

[311] Ibid.

[312] Appellant submission of Australia, paras. 114-115.

by outbreaks of fire blight at Hawke's Bay in New Zealand in 1998 and in Michigan, United States in 2000. The Panel referred to this evidence in its Report.[313]

2.172 Further, what Australia omits to mention, is that Dr Sgrillo considered that the evidence relating to economic losses associated with outbreaks of fire blight at Hawke's Bay and Michigan did not assist Australia.[314]

2.173 Dr Sgrillo observed that, in respect of the 1998 Hawke's Bay outbreak, the economic losses of New Zealand in 1998 were estimated at 2.8% of the country's production.[315] Dr Sgrillo also noted that the Michigan outbreak in 2000 involved 4.4% of the trees, 2.6% of the area and 10.8% of Michigan's production. Dr Sgrillo referred to the fact that the IRA should also have considered that perfect fire blight conditions, involving unusually warm, humid and wet weather, are expected to occur only once in each 10 years. Based on these and other factors, Dr Sgrillo considered that the IRA overestimated consequences by estimating a country loss of 50% and 20% for pear and apple respectively.[316]

2.174 In addition, the Panel took into account Dr Paulin's views as to potential production and economic losses, namely that:

a) The overall production of fruits in a whole country has never been seriously decreased, even by a severe fire blight epidemic, even if the damage can be very costly at the local level, in certain years for certain varieties…. the impact score of "F" could be exaggerated.[317]

b) Given the likely low impact at the national level of the disease on overall production, the losses for domestic trade or industry look exaggerated and unrealistic.[318]

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[313] Panel Report, para. 7.454.

[314] Compilation of expert replies, paras. 99-103.

[315] Compilation of expert replies, para. 100.

[316] Compilation of expert replies, para. 103.

[317] Panel Report, para. 7.465, citing compilation of expert replies, para. 87.

[318] Panel Report, para. 7.466, citing compilation of expert replies, para. 91.

c) The impact on fruit trade will be limited, especially if the eradication methods are effective.[319]

2.175 Thus, Australia's claim that the Panel failed to take into account relevant economic evidence in its assessment of the IRA's conclusions as to the consequences of fire blight, has no foundation.

b. The Panel did not overlook relevant expert testimony on consequences

2.176 Second, the Panel did not fail to assess the significance of, or overlook, any of the experts' views on consequences, including the comments made by Dr Paulin and Dr Deckers that consequences would be "high".

2.177 Indeed, Panel Member Ehlers referred to those remarks during the meeting with experts.[320] Moreover, the Panel assessed the significance of those remarks when it weighed them against the other comments of the experts in relation to consequences.[321]

2.178 As the Panel recognised, it was not disputed that fire blight can have serious consequences.[322] The broader issue the Panel was required to address for the purpose of assessing compliance with Article 5.1 was, however, different. It was whether the IRA's evaluation of the potential consequences associated with the entry, establishment and spread of fire blight into Australia relied on adequate evidence.

2.179 In addressing this issue, the Panel emphasised that, as part of determining whether the IRA's conclusions were objective and coherent, "[i]t is not the Panel's role to reassess the impact scores assigned by the IRA to specific criteria and propose different scores."[323] Thus, it was not part of the Panel's task to determine whether or not the IRA's

[319] Panel Report, para. 7.467, citing compilation of expert replies, para. 92.

[320] Transcript of meeting with experts, para. 299.

[321] See further, paras. 2.227 to 2.235 below.

[322] Panel Report, para 7.452, citing New Zealand's reply to Panel question 67 after the first substantive meeting, para. 141 and New Zealand's second written submission, paras. 2.455-2.456.

[323] Panel Report, para. 7.468.

classification of consequences as "high" was "correct". For the Panel to have done this would have necessitated it carrying out its own risk assessment.

2.180 As the Panel did ask itself the correct question, and did not overlook the expert comments to which Australia refers, there is no basis for Australia's complaint in relation to the Panel's assessment of the IRA's conclusions on fire blight consequences.

2.181 For the reasons outlined above, none of Australia's claims that the Panel misinterpreted and misapplied Articles 5.1, 5.2 and 2.2 in its conclusions in relation to fire blight can be sustained. The Panel's conclusions in respect of those Articles should therefore be upheld.

9. Specific Panel "errors": ALCM

2.182 Australia's challenge to the Panel's conclusions in relation to ALCM is limited in important respects. For example, Australia has not contested the Panel's key findings that the IRA failed to properly take into account such significant issues as the protracted emergence of ALCM, climatic issues, and mode of trade.[324] Australia's only claim regarding the Panel's conclusions on the IRA's assessment of establishment and spread is that the Panel failed to take into account the "materiality" of the flaws in the IRA.[325] As will be demonstrated below, this is simply untrue.

2.183 Moreover, Australia's claims regarding alleged errors in the Panel's approach to reviewing the IRA's assessment of ALCM are all based on Australia's flawed assertion that, instead of following the clear guidance of the Appellate Body in *US/Canada – Continued Suspension*, the Panel should have asked itself "whether the judgement in fact made in the IRA, notwithstanding any perceived shortcomings in the reasoning to that judgement, was within a range that could be considered legitimate according to the standards of the scientific community".[326] However, as has been pointed out earlier, there is no basis for this new gloss on the test set out by the Appellate Body in *US/Canada –*

[324] Panel Report, paras. 7.840, 7.854 and 7.866.

[325] Appellant submission of Australia paras. 121-122.

[326] Appellant submission of Australia, para. 118.

Continued Suspension. The Panel correctly focused on whether the reasoning articulated on the basis of the scientific evidence was objective and coherent and whether particular conclusions in the IRA were supported by sufficient scientific evidence.

(a) Importation

2.184 Australia's first specific claim relates to the Panel's analysis of the likelihood of importation. Australia asserts that "At no point did the Panel find that the estimate of the probability of importation was not within a legitimate range"[327] and that, as a result, the Panel has "found abstract fault in a perceived failure by the IRA to take into account viability when the Panel's own conclusion was that the infestation rate relied upon was 'more realistic'."[328]

2.185 While somewhat difficult to follow, Australia's essential claim appears to be that since the Panel described one of the two data-sets used by the IRA in its estimate of the likelihood of importation of ALCM (the August 2005 data) as "more realistic" than the other data set (the IRA's estimate),[329] the IRA's overall conclusions on the likelihood of importation were within a legitimate range.

2.186 There are two key problems with Australia's claim. First, it is based on Australia's flawed interpretation of the test set out by the Appellate Body in *US/Canada - Continued Suspension.* Second, it confuses the concepts of "infestation rate" and "likelihood of importation".

2.187 Australia's claim is based on the Panel's finding, under its Article 5.6 analysis, that "New Zealand has made a prima facie case that an infestation rate more in the range found in the August 2005 data would be more realistic in light of the various factors that the IRA did not properly take into account".[330] That finding is consistent with the expert testimony of Dr Cross and Dr Deckers who described the IRA's estimate (which was

[327] Appellant submission of Australia, para. 120.

[328] Ibid.

[329] See appellant submission of Australia, para. 119.

[330] Panel Report, para. 7.1360.

based on the IRA's eight importation steps) as "unclear"[331], reliant on "old and inadequate published data"[332], "subject to large uncertainties"[333] and without "sufficient scientific evidence."[334] Indeed, Dr Cross went so far as to claim that the IRA's estimate of the likelihood of importation was so flawed that it "should be discarded".[335]

2.188 However, while the August 2005 data might have been a "more realistic" estimate of the infestation rate than the IRA's flawed estimate, the key point that Australia's claim fails to acknowledge is that the Panel did not find that the August 2005 data was a realistic estimate of the likelihood of importation, because it only relates to occupied cocoons.[336]

2.189 As identified by the Panel, one of the key flaws with the IRA was that it failed to take into account the available scientific evidence on viability which indicates that a significant proportion of occupied cocoons on New Zealand apples are not viable.[337] Instead, the IRA used the August 2005 data as an estimate of the likelihood of importation, without ever accounting for viability.[338] As found by the Panel: "the data on occupancy and viability of ALCM cocoons on New Zealand apples was not adequately taken into account" by the IRA.[339] In light of this, and the expert testimony that "the data on viability is crucial in order to estimate the likelihood that picked apple fruit is infested

[331] Compilation of expert replies, para. 589.

[332] Compilation of expert replies, para. 646.

[333] Compilation of expert replies, para. 578.

[334] Compilation of expert replies, para. 663.

[335] Compilation of expert replies, para. 578.

[336] Panel Report, para. 7.800. As was identified by Dr Cross, the August 2005 data "gives the frequency of occurrence of occupied cocoons. The actual infestation rate of viable cocoons would be substantively lower as a significant proportion of occupied cocoons are not viable": Compilation of expert replies, paras. 579, 583 and 685. See also transcript of the Panel's meeting with experts, paras. 591, 679.

[337] Panel Report, paras. 7.800, 7.801, 7.805, 7.811 and 7.812.

[338] Panel Report, paras. 7.800, 7.801, 7.805, 7.810. Note: the Panel's conclusion that the IRA failed to take into account viability also applied to the IRA's own estimation of the likelihood of importation, based on the IRA's eight importation steps: see Panel Report, paras. 7.800, 7.801, 7.805 and 7.810. See also transcript of the Panel's meeting with experts, para. 679.

[339] Panel Report, para. 7.805.

with ALCM",[340] the Panel concluded that "the IRA's reasoning regarding the viability of ALCM is not objectively justifiable".[341]

2.190 Thus, even if the Australian test were to be applied there is no basis for Australia's claim that "at no point did the Panel find that the estimate of the probability of importation was not within a legitimate range".[342] To the contrary, the Panel found that the IRA's reasoning was not objectively justifiable because it failed to take into account viability.[343] It is difficult to imagine how a conclusion that does not "adequately take into account" a matter that is "crucial" to the overall estimate could be considered to fall within a legitimate scientific range.

(b) Materiality

2.191 In relation to the Panel's analysis of establishment and spread, Australia claims that the Panel "found only abstract fault in the IRA not having taken into account some identified 'factor', never pausing to ask the correct question whether the 'factor' meant that the estimate reached was outside a legitimate range".[344] In support of its assertion in this regard, Australia points to paragraph 7.871 of the Panel Report, which states: "if the IRA had taken the factors described in the preceding paragraph into account, and found that any of them had a significant impact on the analysis, presumably the whole range of estimations, and not just the upper or lower values, could have shifted". Australia claims that this shows that the "Panel failed to assess the materiality of the perceived errors".[345]

2.192 Once again, this is a claim by Australia that the Panel should have conducted its own risk assessment, something which the Panel had no mandate to do (and did not do). In any event, contrary to Australia's claims, the Panel was very clearly focused on the

[340] Panel Report, para. 7.805. See also compilation of expert replies, para. 568 where Dr Cross described the issue of viability as of "crucial importance…in calculating risks and determining appropriate sample sizes."

[341] Panel Report, para. 7.806.

[342] Appellant submission of Australia, para. 120.

[343] Panel Report, para. 7.806.

[344] Appellant submission of Australia, paras. 121 and 122.

[345] Appellant submission of Australia, para. 121.

materiality of the various flaws with the IRA's analysis of entry, establishment and spread, consistent with the appropriate standard of review and the guidance provided by the Appellate Body.

2.193 In its analysis of the IRA's failure to take into account viability the Panel noted that, as identified by Dr. Cross, the "data on viability rates is *crucial*, in order to estimate the likelihood that picked apple fruit is infested with ALCM".[346] Likewise, in its analysis of the IRA's failure to take into account that ALCM emergence would be staggered over a period of time, the Panel concluded that "the issue of the protracted emergence of ALCM, in relation to its short life-span, is an *important* factor in considering the likelihood of transfer" because it "would *substantially* reduce the likelihood" of mating occurring.[347] In respect of climate too, the Panel was clearly focused on the materiality of the IRA's failures, concluding that "if a climatic analysis were to conclude that a suitable climate for establishment and spread of ALCM is limited to particular areas of Australia, this could presumably have a *significant* effect on the risk assessment".[348] In respect of mode of trade, the Panel found that "mode of trade should have a *significant* effect on the risk assessment".[349] Finally, in its overall findings on the IRA's estimation of the likelihood of entry, establishment and spread the Panel concluded that: "The IRA has not properly considered a number of factors that could have a *major* impact on the assessment of this particular risk".[350]

2.194 Indeed, in paragraph 7.871, which is the paragraph relied on by Australia in relation to its materiality claims, the Panel ultimately concluded that: "The failure of Australia's IRA to take all these factors into account is enough to cumulatively create reasonable doubts about the risk assessment with respect to its evaluation of the likelihood of entry, establishment and spread of ALCM…Due to these flaws, the IRA's

[346] Panel Report, para. 7.805 (emphasis added).

[347] Panel Report, para. 7.840 (emphasis added).

[348] Panel Report, para. 7.854 (emphasis added).

[349] Panel Report, para. 7.866 (emphasis added).

[350] Panel Report, para. 7.868 (emphasis added).

reasoning in this regard cannot be found to be supported by coherent reasoning and sufficient scientific evidence and, in this sense, is not objectively justifiable".[351]

2.195 Thus, contrary to Australia's claims, all that is indicated by the sentence "if the IRA had taken the factors described in the preceding paragraph into account, and found that any of them had a significant impact on the analysis, presumably the whole range of estimations, and not just the upper or lower values, could have shifted" is that the Panel correctly understood its limited mandate of review. The Panel identified that the factors ignored by the IRA would, if taken into account, very likely have a significant effect on the outcome, but correctly refrained from conducting a *de novo* review of the risk to calculate the actual effect. Instead, in accordance with the Appellate Body's guidance in *US/Canada – Continued Suspension*, the Panel focused on reviewing the IRA to determine whether, in light of the flaws identified, it could be considered to be supported by coherent reasoning and respectable scientific evidence and was, in this sense, objectively justifiable. Indeed, it is difficult to understand what more the Panel could have done while avoiding conducting a *de novo* review.

2.196 Accordingly, there is simply no basis for Australia's claim that Panel failed to take into account materiality. Australia's assertions amount to nothing more than an unwarranted objection to the Panel's refraining from conducting a *de novo* review.

(c) Consequences

2.197 In relation to the Panel's assessment of consequences, Australia asserts that the Panel's failure to refer explicitly to Dr Cross's statement in response to the Panel's question 96,[352] that modifying the IRA impact scores "would not result in a change in the rating of the overall consequences as 'low'" and so was "in this respect…objective and

[351] Panel Report para. 7.871.

[352] The Panel's question 96 was as follows: "Please comment on whether the evaluation in Australia's IRA of the potential biological and economic consequences of ALCM incursion in Australia was objective and credible? In assessing consequences of ALCM introduction, should current or historical data be considered to be more relevant?" (Compilation of expert responses, p. 106).

credible", indicates that the Panel did not "stand back and ask whether the overall judgement made was within a legitimate range".[353]

2.198 The key flaw with Australia's claim (apart from being based on a flawed interpretation of *US/Canada – Continued Suspension*) is that it is based on a misunderstanding of the Panel's findings regarding consequences. In particular, Australia has failed to appreciate that the Panel's key finding on consequences related to a matter that was not addressed by Dr Cross in the statement quoted above.

2.199 The Panel's conclusion regarding the IRA's assessment of likely consequences was primarily based on the failure of the IRA to take into account climate factors. This is clear from 7.884 of the Panel report, which states:

> Moreover, the Panel has already noted that Australia's IRA does not adequately consider the issue of the geographic range and the existence of climatic conditions necessary for establishment and spread of ALCM in Australia. As stated by New Zealand, potential ALCM establishment in Australia can be limited by geographical and climatic barriers. This calls into question the IRA's conclusions regarding the potential biological and economic consequences associated with the entry, establishment or spread of ALCM into Australia.

2.200 However, in concluding that modifying the IRA impact scores "would not result in a change in the rating of the overall consequences as 'low'" and so was "in this respect…objective and credible", Dr Cross did not factor in the failure of the IRA to take into account climatic factors. In a different context, Dr Cross expressly recognised the significance of the IRA's failure to take into account climate.[354]

2.201 However, while Dr Cross did not identify and take into account in his response to question 96 the impact of the IRA's failure to take into account climate on the

[353] Appellant submission of Australia, para. 123.

[354] Panel Report, para. 7.853 and transcript of the Panel's meeting with experts, para. 635.

assessment of consequences, it is clear that the Panel did.[355] In this context, it was not necessary for the Panel to refer to Dr Cross's statement.

2.202 There is, accordingly, no basis for Australia's claim that the Panel's failure to refer to Dr Cross's statement indicates that it "did not stand back and ask whether the overall judgement made was within a legitimate range".[356] To the contrary, the Panel found that the IRA's conclusions regarding consequences were not objective and coherent because of the failure of the IRA to take account of climate.[357]

2.203 For all of the above reasons, Australia's claim that the Panel misinterpreted and misapplied Articles 2.2, 5.1 and 5.2 must be rejected. The Panel was correct in its interpretation of what constitutes a risk assessment and made no errors in its interpretation and application of the relevant provisions of the SPS Agreement to measures relating to both fire blight and ALCM and also the general measures.

C. FAILURE TO MAKE AN OBJECTIVE ASSESSMENT: GROUND C

1. Applicable legal principles

2.204 Australia has claimed that the Panel failed to "make an objective assessment of the matter" under Article 11 of the DSU. According to Australia, this requires the Panel "at least: (1) to understand the "matter before it"; and (2) to engage with all of the important evidence before it that is relevant to that matter."[358] However, the Panel in this case both understood the matter before it and engaged appropriately with the evidence.

2.205 Moreover, in setting out the "applicable legal principles" relevant to assessing a claim under Article 11 Australia has failed to refer to significant and consistent jurisprudence relating to such claims.

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[355] Panel Report, para. 7.884.

[356] Appellant submission of Australia, para. 123.

[357] Panel Report, paras. 7.884 and 7.885.

[358] Appellant submission of Australia, para. 128.

2.206 Starting with *EC – Hormones*, the Appellate Body has emphasised that the "[d]etermination of the credibility and weight properly to be ascribed to (that is, the appreciation of) a given piece of evidence is part and parcel of the fact finding process and is, in principle, left to the discretion of the Panel as the trier of facts."[359] The Appellate Body stated that "not every error in the appreciation of the evidence" is a failure to make an objective assessment. While "deliberate disregard of, or refusal to consider" the evidence submitted is "incompatible with a panel's duty to make an objective assessment of the facts", such allegations "imply not simply an error of judgement in the appreciation of the evidence but rather an egregious error that calls into question the good faith of a panel."[360]

2.207 The Appellate Body elaborated that "it is generally within the discretion of the Panel to decide which evidence it chooses to utilize in making findings"[361], and that "[t]he Panel cannot realistically refer to all statements made by experts advising it and should be allowed a substantial margin of discretion as to which statements are useful to refer to explicitly".[362] Applying this guidance in later cases the Appellate Body has reiterated that: it "will not interfere lightly with a panel's exercise of its discretion"[363]; it will not "second-guess" the Panel[364]; panels are "not required to accord to factual evidence of the parties the same meaning and weight as do the parties"[365]; and that it will not find an inconsistency under Article 11 simply on the basis that it "might have reached a different factual finding from the one the panel reached."[366] The Appellate Body has stated that "[a] panel enjoys discretion in assessing whether a given piece of evidence is

[359] Appellate Body Report, *EC – Hormones*, para. 132.

[360] Appellate Body Report, *EC – Hormones*, para. 133.

[361] Appellate Body Report, *EC – Hormones*, para. 135.

[362] Appellate Body Report, *EC – Hormones*, para. 138. In that case the Appellate Body concluded at para. 144 that even though the Panel sometimes misinterpreted some of the evidence before it, this did not amount to "the egregious disregarding or distorting of evidence before the Panel."[362]

[363] See, for example, Appellate Body Report, *US – Carbon Steel*, para. 142.

[364] See, for example, Appellate Body Report, *EC – Asbestos*, para. 177.

[365] Appellate Body Report, *Australia – Salmon*, para. 267.

[366] See, for example, *US – Safeguard on Wheat Gluten*, para. 151.

relevant for its reasoning, and is not required to discuss, in its report, each and every piece of evidence."[367]

2.208 Australia relies to a large extent on the Appellate Body Report in *US/Canada – Continued Suspension* for the proposition that the Panel had to "engage with all of the important evidence before it that is relevant to that matter". The Panel did in fact do this in the present case. Unlike the situation in *US/Canada – Continued Suspension*, however, the reality in this case is that the evidence and the testimony of the experts overwhelmingly support the Panel's conclusion that the IRA is not objectively justifiable.

2.209 In *US/Canada – Continued Suspension* the Appellate Body found fault with the Panel's *general approach* to expert testimony which resulted in the Panel applying the wrong standard of review. The Appellate Body stated that "the Panel seems to have conducted a survey of the advice presented by the scientific experts and based its decisions on whether the majority of the experts, or the opinion that was most thoroughly reasoned or specific to the question at issue, agreed with the conclusions in the European Communities' risk assessment."[368] This was a particular problem in that case as the panel had "relied extensively"[369] on the views of two experts for whom there were "justifiable doubts as to their independence or impartiality".[370] The Appellate Body noted that "the significance to the Panel's analysis" of the testimony of these two experts "will become more evident from our review of the Panel's findings under Article 5.1 and 5.7 of the SPS Agreement."[371] In the context of that review, the Appellate Body illustrated the Panel's flawed general approach to the expert testimony with some specific examples, citing various instances where the Panel had relied on statements by the two experts, while not sufficiently addressing contrary views by the other experts.

2.210 In the present case the experts relied upon by the Panel are clearly "independent and impartial". Australia has not made a general claim that the Panel applied the wrong

[367] Appellate Body Report, *Brazil – Measures Affecting Imports of Retreated Tyres*, para. 202.

[368] Appellate Body Report, *US/Canada – Continued Suspension*, para. 598.

[369] Appellate Body Report, *US/Canada – Continued Suspension*, para. 484.

[370] Appellate Body Report, *US/Canada – Continued Suspension*, para. 481.

[371] Appellate Body Report, *US/Canada – Continued Suspension*, para. 484.

general approach to the evidence or expert testimony. Indeed, in line with the guidance provided by the Appellate Body in *US/Canada - Continued Suspension* the Panel in this case properly focused on reviewing the conclusions in the IRA, and relied on the experts in line with the Appellate Body's guidance in that case that:

> The panel may seek the experts' assistance in order to identify the scientific basis of the SPS measure and to verify that this scientific basis comes from a qualified and respected source, irrespective of whether it represents minority or majority scientific views. It may also rely on the experts to review whether the reasoning articulated on the basis of the scientific evidence is objective and coherent, and whether the particular conclusions drawn by the Member assessing the risk find sufficient support in the evidence. The experts may also be consulted on the relationship between the risk assessment and the SPS measure in order to assist the panel in determining whether the risk assessment "sufficiently warrants" the SPS measure.[372]

2.211 Australia's submissions under Article 11 ignore the fact that the comments by the experts strongly support New Zealand's case that the reasoning in the IRA was not objective and coherent and that particular conclusions in the IRA do not find sufficient support in the scientific evidence. The Panel properly drew on these comments in support of its findings in this case. As New Zealand will now demonstrate with respect to particular comments identified by Australia, the Panel did appropriately engage with expert testimony in line with the approach set out in *US/Canada – Continued Suspension*.

2. The Panel did not disregard or fail to engage with evidence relating to fire blight

2.212 Australia claims that the Panel disregarded "important evidence" relating to fire blight. The only "important evidence" Australia mentions is what it describes as "critical aspects of the appointed experts' testimony that was favourable to Australia's case".[373] Australia makes no claim that the Panel disregarded any of the extensive evidence

[372] Appellate Body Report, *US/Canada – Continued Suspension*, para. 592.

[373] Appellant submission of Australia, para. 133.

referred to in the IRA and adduced by both Parties, none of which supported the existence of a pathway for transmission of fire blight via mature apples.

2.213 The Panel did not disregard expert testimony that was favourable to Australia's case.[374] Rather, even according to the test Australia itself articulates, the Panel carefully demonstrated in its Report that it understood the "matter before it" and that it engaged with all the important evidence before it that was relevant to that matter.[375]

2.214 Australia gives three examples of expert testimony relevant to fire blight that it says was entirely overlooked by the Panel:

a) Dr Deckers' alleged clear and explicit support for the critical judgements in the IRA and the necessity for measures.

b) Dr Paulin's and Dr Deckers' alleged support for the IRA's assessment of consequences associated with fire blight.

c) Dr Schrader's alleged testimony that the uniform distribution is useful in the precise circumstances confronting the IRA Team.[376]

2.215 No relevant testimony was overlooked by the Panel, however, and in any event Australia has misconstrued the experts' comments by taking them out of context.

2.216 Contrary to Australia's claim, Dr Deckers did not "clearly and explicitly support the critical judgements made in the IRA and the necessity for measures".[377] Nor did he express any "overall view … that measures were sufficiently justified".[378] Nor did either Dr Paulin or Dr Deckers support the IRA's assessment of consequences in relation to fire blight.[379] Nor did the Panel fail to assess the significance of Dr Schrader's testimony that

[374] Appellant submission of Australia, para. 133.

[375] Cf. appellant submission of Australia, para. 128.

[376] Appellant submission of Australia, para. 133.

[377] Ibid.

[378] Ibid.

[379] Ibid.

the uniform distribution was "useful in the precise circumstances confronting the IRA at that point."[380]

(a) The Panel did not overlook Dr Deckers' views on the overall probability of importation; nor did Dr Deckers' views support the conclusions in the IRA

2.217 The first example of testimony that Australia claims to be favourable to its case and to have been overlooked by the Panel is the statement of Dr Deckers that:

> 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.[381]

2.218 New Zealand comprehensively dealt with this example above at paragraphs 2.83 to 2.91, and will simply summarise and elaborate on that response below.

2.219 First, Dr Deckers' response is not inconsistent with the Panel's analysis in relation to this issue; nor was his response, taken in context, inconsistent with his previous answers in relation to individual importation steps and the overall probability of importation. Put simply, this was not "testimony favourable to Australia", and in any event its significance was assessed by the Panel.

2.220 Second, although Australia claims that Dr Deckers' response "qualif[ies] significantly" his earlier statement that the probability of importation "could be overestimated",[382] it fails to establish that this is so.

2.221 Third, Dr Deckers did not give "testimony that overall the probability of importation was not exaggerated."[383] Dr Deckers considered that the IRA over-estimated the overall likelihood of importation of *E. amylovora* as well as the likelihood assessed at

[380] Ibid.

[381] Transcript of the Panel's meeting with experts, para. 259.

[382] Cf. appellant submission of Australia, para. 137.

[383] Cf. appellant submission of Australia, para. 138.

three of the most significant importation steps, 2, 3 and 5.[384] Thus, Australia is wrong in asserting that the Panel was required to "assess the significance" of such testimony against Dr Deckers' testimony criticising the conclusions in the IRA at various steps in the importation scenario.[385] Dr Deckers' oral comment had no particular "significance" in that regard and the Panel was not required to refer to it in any more detail than it did. Australia has failed to establish either that the Panel disregarded Dr Deckers' reply, or that his views expressed in that response contradict anything else he said.[386]

2.222 It is true that Dr Deckers stated in his reply to Panel question 34 that the IRA's mean value for the overall probability of importation of *E. amylovora* "could be overestimated" rather than that it is "probably overestimated", the formulation used by the Panel.[387] But nothing turned on the distinction in wording for the Panel's analysis of this issue. The Panel concluded that the IRA does not attempt to find justification for the estimated overall probability of importation, other than by aggregation of the different likelihoods represented by each importation step.[388] In light of the conclusions regarding the IRA's estimations of those individual steps reached earlier in the Panel's report, which drew in part from Dr Deckers' testimony, and the lack of any separate justification and evidence in the IRA regarding the estimated overall likelihood of importation, the Panel concluded that the overall probability of importation is not based on adequate scientific evidence and, accordingly, is not coherent and objective.[389]

(b) Australia has taken Dr Deckers' testimony on exposure out of context

2.223 Australia's second example of the Panel's "disregard of important evidence" is Dr Deckers' remark in relation to the probability of exposure that "[t]his value between 0

[384] See above, paras. 2.83-2.93.

[385] Ibid.

[386] As summarised above at paras. 2.83-2.91.

[387] Panel Report, para. 7.356, referred to in Australia's appellant submission, paras. 137-138.

[388] Panel Report, para. 7.356.

[389] Panel Report, para. 7.357.

and ten to the sixth is also very low, so I think this is true."[390] New Zealand has already dealt with this point in paragraphs 2.144 to 2.153 above.

2.224 To summarise New Zealand's earlier response, Dr Deckers refrained from answering questions on risk assessment methodology and the interval 0 to 10^{-6} stating he did not "feel an expert for these questions".[391] This comment, and the circumstances in which he made his remark, indicate that he was not making an informed comment on the interval used in the IRA to model negligible events. Dr Deckers' reply cannot be read as confirming that the interval was appropriate nor that the uniform distribution was appropriately used. These were all aspects which the Panel found, consistent with the views of the experts who did express views on these matters, were not properly justified in the IRA and resulted in a significant overestimation of the risk.[392] In commenting that 0 to 10^{-6} was also "very low", Dr Deckers was not turning his mind to whether that interval corresponds to an event that almost certainly would not occur. By his own admission, he did not have the necessary expertise to do so.

2.225 Based on their testimony overall, the experts were properly regarded by the Panel as being "sceptical of the estimations for the exposure likelihood".[393] In reaching its conclusions in relation to the IRA's exposure assessment, the Panel made an objective assessment of the facts before it, by appropriately giving weight to the relevant written answers from the experts.

2.226 Moreover, elsewhere in its Report, the Panel has found, consistent with the views of the experts, that the choice of the interval 0 to 10^{-6} and the use of the uniform distribution to model negligible likelihoods, were not properly justified in the IRA and overestimate the risk.[394]

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[390] Appellant submission of Australia, para. 139, referring to compilation of expert replies, para. 297.

[391] Dr Deckers replies to questions posed by the Panel, p. 41. This response has been omitted from the compilation of expert replies at Annex B-1 of the Panel Report.

[392] Panel Report, para. 7.508.

[393] Panel Report, para. 7.442.

[394] Panel Report, paras. 7.479-7.484; 7.492-7.496; 7.508-7.510.

(c) Dr Paulin's and Dr Deckers' testimony on consequences was not favourable to Australia

2.227 Australia claims that Dr Deckers and Dr Paulin both gave testimony favourable to Australia in relation to consequences and that the Panel failed to reproduce the testimony or assess its consequences.[395] New Zealand has already responded in part to that argument in paragraphs 2.176 to 2.180 above.

2.228 Furthermore, the Panel did not overlook or fail to assess the significance of Dr Paulin's and Dr Deckers' respective views on the consequences of entry, establishment and spread of fire blight, including that the consequences were "high". The fact that fire blight can have serious consequences was not in dispute. Dr Deckers' statement that consequences can be classified as "high" takes the matter no further. Ultimately, the issue the Panel was required to address for the purpose of assessing compliance with the SPS Agreement was not whether use of the adjective "high" or "serious" was correct. Rather, the Panel had to assess whether the IRA's evaluation of the potential consequences associated with the entry, establishment or spread of fire blight into Australia relied on adequate evidence and thus whether the reasoning was coherent and objective. Dr Deckers' answer to Panel question 11 provided little assistance on that question.

2.229 The Panel understood that its role was not "to reassess the impact scores assigned by the IRA to specific criteria and propose different scores"[396] or to determine whether the IRA's classification of consequences was "correct". Nor was it part of the role of the experts to do so. Rather, the Panel's task was to evaluate whether the IRA's conclusions were objective and coherent.

2.230 The Panel acted appropriately in focusing its analysis on whether the IRA's conclusions on consequences were supported by sufficient evidence and thus whether they were coherent and objective. In that regard, the Panel chose to rely primarily on the views of Dr Paulin, which were considerably more comprehensive and detailed on this

[395] Appellant submission of Australia, paras. 141-142 (Dr Deckers); paras. 145-146 (Dr Paulin).

[396] Panel Report, para. 7.468.

topic than those of Dr Deckers. As the Panel noted, Dr Paulin expressed a number of reservations in relation to the IRA's analysis of consequences, including that "the IRA has a tendency to overestimate the severity of the consequences of fire blight in certain aspects. This overestimation affects in particular two of the criteria, which in the IRA are assigned the most severe scores of "F" and "E" (plant life or health and domestic trade or industry, respectively).[397]

2.231 As Australia points out, Dr Paulin indicated his view that the overall qualification of "high" for the impact of fire blight is appropriate, based on the possible international consequences. But, as the Panel emphasised, it was not its role to reassess the individual impact scores in the IRA.[398] In any event, the IRA itself did not emphasise international consequences as being particularly significant. Rather, its assessment was primarily based on impacts on plant life and health and domestic trade or industry, precisely the areas of the IRA's assessment the experts considered least justifiable.[399]

2.232 First, Dr Paulin called into question the IRA's assessment of the economic consequences, noting that "[t]he overall production of fruits in a whole country has never been seriously decreased, even by a severe fire blight epidemy [epidemic], even if damages can be very costly at the local level, in certain years for certain varieties." Accordingly, Dr Paulin indicated that he thought the IRA's assessment of consequences for plant life or health could be exaggerated. As a related point, Dr Paulin also thought that it followed that "the likely low impact at the national level of the disease on overall production, [meant that] the losses for domestic trade or industry look exaggerated and unrealistic."[400]

[397] Panel Report, para. 7.469.

[398] Panel Report, para. 7.468

[399] Panel Report, para. 7.469.

[400] Compilation of expert replies, para. 91.

2.233 In relation to international trade, Dr Paulin considered that the IRA's assessment seemed exaggerated as "[t]he impact on fruit trade will be limited, especially if the eradication methods are effective".[401]

2.234 Although the Panel did not specifically refer to Dr Sgrillo's response to question 11 in its Report, his response, which focused on the economic consequences, is consistent with that of Dr Paulin. Dr Sgrillo also expressed the view that the IRA lacked information to justify its conclusion that the consequences for plant life or health would be significant at a national level.[402]

2.235 It follows that, in its analysis of the IRA's conclusions on consequences, the Panel made an objective assessment of the matter before it. Having reviewed the evidence it was open to the Panel to conclude that the IRA's evaluation of the potential consequences associated with the entry, establishment or spread of fire blight into Australia does not rely on adequate scientific evidence and, accordingly, is not coherent and objective. In this regard, Dr Deckers' testimony on which Australia relies was ultimately of limited assistance to the Panel. Australia's claim should therefore be rejected.

(d) Dr Deckers did not consider measures were necessary in respect of fruit exports

2.236 Australia claims that the Panel failed to pay sufficient regard to a comment by Dr Deckers that the limitation of apple exports to mature symptomless apples is not enough to achieve Australia's ALOP.[403] Australia claims that this comment indicates that "Dr Deckers' overall view was that measures were sufficiently justified".[404] Australia is wrong. The Panel gave appropriate weight to Dr Deckers' testimony, according to its role as trier of fact, in its consideration of New Zealand's Article 5.6 claim.[405]

[401] Ibid, para. 92.

[402] Ibid, paras. 98-106.

[403] Australia's appellant submission, para. 143.

[404] Appellant submission of Australia, para. 133.

[405] Cf. appellant submission of Australia, para. 144.

2.237 New Zealand has already explained why Dr Deckers' statement was not relevant to the Panel's consideration of New Zealand's claims under Articles 5.1, 5.2 and 2.2. New Zealand's response to this argument is dealt with in paragraphs 2.95 to 2.99 above. In summary, the issue of whether an alternative measure meets ALOP does not arise when considering whether a risk assessment is objectively justifiable. Rather, Dr Deckers' statement was only relevant to the Panel's consideration of Article 5.6. It is in that section of its report that the Panel deals with Dr Deckers' comment.[406] Australia asserts that the Panel "failed to assess its significance", however.[407] This too is incorrect. The Panel conducted a careful and thorough assessment of the experts' views as they related to Article 5.6, and concluded that taken in their totality, despite Dr Deckers' response, the experts' statements supported a finding that a mature, symptomless requirement would meet Australia's ALOP.[408] The Panel engaged with the totality of the evidence and did not "dismiss" Dr Deckers' comment without explanation, as claimed by Australia.[409]

2.238 In addition, Australia has removed Dr Deckers' comment from its context. In context, the comment simply does not bear the meaning Australia attributes to it. Neither Dr Paulin nor Dr Deckers supported the IRA's conclusion that the risk associated with New Zealand apples is above Australia's ALOP, or that Australia's measures are warranted for fire blight.[410] For example, a crucial part of the context Australia omits is Dr Paulin's view that no measures were necessary, referred to by the Panel in its Report:[411]

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[406] Panel Report, paras, 7.1191-7.1192.

[407] Appellant submission of Australia, para. 144.

[408] Panel Report, paras. 7.1190-7.1192.

[409] Appellant submission of Australia, para. 144. New Zealand notes that the first two sentences of paragraph 144 of Australia's appellant submission represent the full extent of Australia's claim that the Panel failed to make an objective assessment of the matter as required by Article 11, in respect of its findings under Article 5.6.

[410] New Zealand's comments on Australia's comments on the experts' replies to questions, para. 30; Panel Report, paras. 7.1190-7.1192.

[411] Panel Report, paras. 7.445, 7.1126, 7.1183, 7.1189, 7.1190.

> In my view, the importation of bacteria with apple is probably possible. The further step from this imported bacterial population to a new plant in Australia is probably even less likely. 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 is my personal view, that there is a possibility which level of risk is not far higher than the natural spreading possibility of the bacteria to go from place to another with something else, I would say, which has no connection with trade of apples.[412]

2.239 Dr Deckers also addressed this topic and his response is equally relevant:

> Here I would say yes, there is indeed a risk for the importation of infected fruits. It is clear. But, on the other hand, I must say that in other situations where countries try to keep out fire blight, they are not talking in the first place about fruits, they are talking more about plant material and potential infections on plant material, root stock or variety materials. So that is maybe an important point.[413]

2.240 Dr Deckers' reply distinguishes between the risk that imported fruit may carry small quantities of *E. amylovora* and the risk that imports of apple fruit are involved in introducing fire blight (in respect of which the experts confirmed, and the Panel found, there is no scientific evidence). Any comments by Dr Deckers on measures are implicitly qualified in that light. Australia has failed to have regard to this important context.

2.241 Indeed, Dr Deckers clearly indicated that he did not consider measures were necessary in respect of apple fruit:

> In the biological cycle of [*E. amylovora*] mature apples are not included as an important way of spreading the fire blight disease. In contrast to the absence of specific measures on export of fruits, specific measures are imposed in Europe in the countries with fire blight around fruit tree nurseries with the aim to prevent export of contaminated trees from infected countries to countries free of fire blight. The trade of apple fruits between the different countries is not subjected to special measures. This means that the spread of

[412] Transcript of the Panel's meeting with the experts, para. 380.

[413] Transcript of the Panel's meeting with the experts, para. 379.

> fire blight disease by fruit tree nursery material is considered to be much more important than the risk for spread by the export of contaminated apple fruits.[414] (Emphasis added.)
>
> …there is a European legislation regulating the control measures in and around the fruit tree nurseries. The risk for introduction of the disease by infected fruits is estimated much lower and no special measures for the export of fruits are undertaken between the different countries in Europe.[415]

2.242 Accordingly, in respect of this example of expert testimony Australia has not shown that the Panel failed to make an objective assessment of the matter before it.

(e) The Panel assessed Dr Schrader's testimony on use of the uniform distribution, which Australia takes out of context

2.243 Australia claims that the Panel failed to reproduce or assess the significance of Dr Schrader's statement that the uniform distribution is "useful".[416] But, on this point, Australia is wrong – the Panel did assess Dr Schrader's testimony on this question.[417]

2.244 New Zealand's response to this claim is set out in paragraphs 2.154 to 2.160 above.

2.245 In summary, Dr Schrader's comments were not specific to the IRA's analysis or to the exposure step. Rather, they were general comments comparing the uniform distribution with other distributions. Indeed, Dr Schrader refrained from commenting on the Panel's question that focused on the combination of a uniform distribution and the interval 0 to 10^{-6} in the context of the IRA's model.[418] Australia has overstated Dr

[414] Compilation of expert replies, para. 52. The Panel quoted this reply from Dr Deckers at para. 7.1181 of its report.

[415] Compilation of expert replies, para. 123. The Panel quoted this reply from Dr Deckers at para. 7.1182 of its report. (Emphasis added.)

[416] Appellant submission of Australia, para. 148.

[417] Panel Report, para. 7.492, referring to Dr Schrader's reply to Panel question 135.

[418] Question 136, see compilation of expert replies, paras. 784-795.

Schrader's comment that a uniform distribution is "useful". Rather, her general comment about the "usefulness" of the uniform distribution was in fact heavily qualified.[419]

2.246 In addition, Dr Schrader's general comment about the "usefulness" of a uniform distribution, which relies on the existence of a properly justified maximum value, could not have applied in the present case where, as the Panel found, the maximum value was not properly justified, and was not directed at the actual interval as it was used in the IRA.[420]

2.247 In its assessment of the IRA's use of the uniform distribution in combination with the interval 0 to 10^{-6}, the Panel properly chose to draw primarily on the responses of the experts who had addressed this particular issue. In doing so, it concluded that the IRA's approach was not adequately justified and would tend to overestimate the risk.[421]

2.248 Again, as in respect of all the above examples, Australia has not demonstrated any failure by the Panel to make an objective assessment of the facts in relation to its analysis of the IRA's conclusions on fire blight.

3. The Panel did not disregard or fail to engage with important evidence of Dr Cross relating to ALCM

2.249 In respect of the Panel's analysis of the IRA's assessment of ALCM, Australia takes issue with the Panel's treatment of the expert testimony regarding consequences.[422] Notably, however, Australia has not objected to the Panel's treatment of the expert testimony with respect to the IRA's flawed assessment of the likelihood of entry, establishment and spread of ALCM.

2.250 Australia's claim regarding the Panel's treatment of expert testimony on consequences relates only to Dr Cross's statement, in his response to the Panel's question 96 that:

[419] Dr Schrader's reply to Panel question 135, para. 781.

[420] Panel Report, paras. 7.481 and 7.495.

[421] Panel Report, paras. 7.496, 7.780, 7.1151, 7.1196, 7.1205, 7.1251.

[422] Appellant submission of Australia, paras. 133, 149 and 150.

> …the re-categorisation of the direct impacts on plant health and the need for control treatments would not result in a change in the rating of the overall consequences as 'low'. In this respect, the conclusion of Australia's analysis was objective and credible.[423]

2.251 Australia asserts that the Panel failed to make an objective assessment of the facts by failing to "reproduce or assess the significance of" this statement.[424] Australia's argument is essentially a repeat of its argument made under ground (b) of its appeal. New Zealand's response to that argument is set out above at paragraphs 2.197 to 2.202 and is also summarised and elaborated below.

2.252 The Panel did not overlook or fail to assess the significance of Dr Cross's responses to question 96 regarding the re-categorization of the impact scores. While it is true that the Panel did not reproduce that statement in its analysis of the IRA's conclusions on consequences, the Panel did not reproduce many of the statements by Dr Cross on consequences, including a number of statements favourable to New Zealand's case.[425] This is hardly surprising. As pointed out by the Appellate Body in *EC-Hormones*: "The Panel cannot realistically refer to all statements made by the experts advising it and should be allowed a substantial margin of discretion as to which statements are useful to refer to explicitly".[426]

2.253 Moreover, as explained above, it was not necessary for the Panel to refer to this particular statement of Dr Cross because it was not relevant to the key issue on which the Panel's conclusions regarding consequences were based – the failure of the IRA to take

[423] Compilation of expert replies, para. 561.

[424] Appellant submission of Australia, para. 150.

[425] For example in relation to the IRA's conclusion that ALCM establishment in Australia would result in increased use of insecticides, the following statements of Dr. Cross, which directly supported New Zealand's case, were not explicitly referenced in the Panel's findings: Dr. Cross's statement that most growers "pay limited attention" to ALCM and "do not apply insecticides" (Compilation of expert replies, para. 556) and his statement that "New Zealand is right to point out that the pest status in New Zealand [of ALCM] has reduced since the introduction of integrated fruit production programs" which "mirrors the European experience [with ALCM] where most growers live with ALCM without apparently suffering serious losses and seldom make treatments in newly planted orchards to control it" (Compilation of expert replies, para. 557).

[426] Appellate Body Report, *EC – Hormones*, para. 138.

climate into account.[427] In a different context, Dr Cross had expressly recognised the significance of the IRA's failure to take climate into account.[428]

2.254 Accordingly, contrary to Australia's claims, the Panel's choice not to refer explicitly to the statement of Dr Cross regarding the re-categorization of the impact scores was not a failure to conduct an objective assessment of the facts. That statement was not directly relevant to the Panel's analysis or overall conclusion that, in light of the IRA's failure to take into account climatic issues, the IRA's reasoning regarding consequences was not objective or coherent.[429]

2.255 Australia has not demonstrated any failure by the Panel to make an objective assessment of the facts in relation to its analysis of the IRA's conclusions on ALCM.

3. The Panel's "errors": misunderstanding the IRA

2.256 Australia claims that the Panel failed to understand the IRA's methodology with regard to "the choice of a probability interval of 0 to 10^{-6} (zero to one in a million) and a midpoint (if a uniform distribution is used) of 5×10^{-7} (0.5 in one million) for events with a "negligible" likelihood of occurring."[430] The Panel's finding that this choice of interval "is not properly justified in the IRA and leads to an overestimation of the probability of entry, establishment and spread"[431] was, according to Australia, "predicated upon a fundamental misunderstanding of the risk assessment methodology".[432]

2.257 While it is not entirely clear from the brief section in Australia's appellant submission what this "fundamental misunderstanding" actually is, it appears to centre on three related propositions:

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[427] See above, paras. 2.197 to 2.202.

[428] Panel Report, para. 7.853 and Transcript of the Panel's meeting with experts, para. 635.

[429] Panel Report, paras. 7.884 and 7.885.

[430] Appellant submission of Australia, para. 152.

[431] Panel Report, para. 7.508.

[432] Appellant submission of Australia, para.154.

- first, that the Panel was incorrect to consider that the use of an interval and distribution shown in Table 12 of the IRA as corresponding to "negligible" events should correlate to the IRA's own qualitative definition of negligible as an event that "would almost certainly not occur";[433]

- second, that the Panel did not understand that the relevant population changes as the analysis progresses through the importation and exposure scenarios and mistakenly believed that use of the interval from 0 to 10^{-6} necessarily resulted in the event happening "relatively frequently each year";[434]

- third, that the Panel's suggestion that the methodological flaws were serious enough to constitute an independent basis for the IRA's invalidity is unsustainable given the "limited uses" of the interval from 0 to 10^{-6}.[435]

2.258 These propositions should be rejected for the following reasons.

(a) The Panel was correct to consider that the interval and distribution used to model negligible events should correlate to the IRA's definition of negligible as an event that "would almost certainly not occur"

2.259 Australia argues that the Panel erred in focusing on the lack of "definitional correspondence" between the term "negligible" (defined in the IRA as an event that "would almost certainly not occur") and the interval and distribution applied to represent such events set out in Table 12 of the IRA.[436] Australia emphasises that the IRA Team "were not constrained by the intervals" contained in Table 12, and that the IRA Team "considered carefully whether they were confident that the range they had chosen would

[433] Appellant submission of Australia, para. 155.

[434] Appellant submission of Australia, para. 157.

[435] Appellant submission of Australia, para. 158.

[436] IRA, Part B, p. 43, reproduced in Appellant submission of Australia, p. 14.

contain the actual value."[437] According to Australia, "the relevant question for the Panel was whether the estimate was within a range that might be considered legitimate according to the standards of the scientific community, not whether the definitional correspondence between the [negligible] range and the [negligible] label was justified."[438]

2.260 In making this argument Australia seeks to deflect attention away from the way in which the interval corresponding to "negligible" events in Table 12 of the IRA was actually used in the IRA, and the significant role it played in the IRA's assessment of risk. The Panel understood these points, and rightly rejected similar arguments made by Australia during the Panel proceedings.

2.261 At the outset, in its methodology section, the IRA set out in Table 12 a series of likelihood labels that would be used in the risk assessment, and their "corresponding" qualitative and quantitative descriptors.[439] For "negligible" likelihoods, the corresponding qualitative descriptor was an event that "would almost certainly not occur" and the corresponding quantitative interval was 0 to 10^{-6} (zero to one in a million) with a midpoint of $5x10^{-7}$ (one in two million) where a uniform distribution is used. This interval and distribution was used to model the lowest probability events considered in the IRA, including events that have never been shown to occur. These events were considered on a per-apple basis, so the midpoint of the interval corresponds to one in two million apples. The IRA Team assigned the "negligible" interval to over a third of all the intervals used in the IRA, and despite apparently being free to use other intervals, in each instance where it modelled events of the lowest probability it applied the interval 0 to 10^{-6} contained in Table 12.[440]

2.262 In this context Australia's suggestion that "definitional correspondence" is irrelevant lacks credibility. It is clear from the IRA itself that the terms and intervals

[437] Appellant submission of Australia, para. 155.

[438] Appellant submission of Australia, para. 155.

[439] IRA, Part B, p. 43, reproduced in Appellant submission of Australia, p. 14.

[440] In all but one it applied a uniform distribution. In one instance, importation step 7 for fire blight, the IRA used a triangular distribution with a most likely value of one in two million.

used in Table 12 were intended to "correspond" with each other,[441] and that these were the intervals that were actually used (repeatedly and in most cases without deviation) in the IRA. If there is no correspondence between the term "negligible" and the interval and distribution used to represent it, then this is a fundamental flaw in the IRA. This was recognised by the Panel when it stated that:

> …the Panel is not convinced by Australia's argument that words are irrelevant and that the focus should only be on the numbers representing probability intervals in the IRA. If a category of events is defined as "negligible" and the IRA describes the category as representing events that 'would almost certainly not occur', any numbers that are assigned to the corresponding quantitative probability intervals should be consistent with that definition.[442]

2.263 The Panel went on to find that there is no such definitional correspondence in the IRA. The intervals in Table 12 were transposed directly from Biosecurity Australia's 2001 *Draft Guidelines for import risk analysis*.[443] The IRA provides no assessment of why these probability intervals were appropriate in the context of the apples IRA and although the IRA states that the IRA Team was not constrained by the intervals in Table 12, at no time did they use a different interval for "negligible" events. In particular, there is no discussion in the IRA of why an interval that predicts (on average) an event occurring once in every two million apples is appropriate to model negligible events, when 150 million apples are predicted to be imported each year. The Panel found support in the comments from experts that, in this context, the midpoint of the "negligible" interval of one in two million is not negligible at all; it is "a relatively high probability value".[444]

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[441] For example, Table 12 is headed up "Nomenclature for qualitative likelihoods, *corresponding* semi-quantitative probability intervals." (Emphasis added.)

[442] Panel Report, para. 7.480. Australia's statement that "there is no standardised definition of the description "negligible" from which the IRA could said to have departed" at paragraph 157 of its appellant submission ignores the fact that the IRA itself contained a definition of negligible. As this quotation from the Panel Report makes clear, it is the lack of correspondence between this definition in the IRA, and the intervals used in the IRA, that is the basis for the Panel's finding.

[443] Appellant submission of Australia, para. 42.

[444] Panel Report, para. 7.483. In effect, the IRA did not model events that occur less than one in two million apples.

2.264 In this light, the Panel came to the following conclusions:

- the "IRA provides little insight on how the probability values were assigned to each of the six qualitative descriptors, including the "negligible" category";[445]
- "[i]n particular, there is no explanation of why events that would almost certainly not occur were assigned a numerical maximum value of one in a million";[446]
- this value is "not properly justified" and "would tend to overestimate" the risk;[447]
- the use of a uniform distribution "means that the model will tend to over represent the numbers in the higher end of the chosen range";[448]
- "[t]he use of a uniform distribution with a maximum of one in a million results in the likelihood of so-called "negligible" events estimated to occur more frequently than, according to the IRA's qualitative descriptors, they should be expected to occur (i.e. the events would "almost certainly not occur");[449] and
- this "would tend to overestimate the likelihood of such negligible events"[450] and "magnify the assessment of risk."[451]

2.265 Australia's suggestion that the Panel should have ignored this lack of definitional correspondence is, therefore, a suggestion that the Panel should have ignored a fundamental flaw in the IRA's methodology. Over one third of all intervals used in the

[445] Panel Report, para. 7.481.

[446] Ibid.

[447] Panel Report, para. 7.484.

[448] Panel Report, para. 7.495.

[449] Ibid.

[450] Panel Report, para. 7.496.

[451] Panel Report, para. 7.508.

IRA for the pests at issue were assigned "negligible" intervals. This interval was the lowest probability interval used in the IRA, and was used to model events that have never been shown to occur – indeed, events that "would almost certainly not occur". Despite apparently being free to use other intervals for such events, the IRA consistently used the parameters set out in Table 12 (0 to 10^{-6}), and in all but one instance this interval was used with a uniform distribution. Clearly, the "definitional correspondence" between this interval, the label "negligible", and the definition "[t]he event would almost certainly not occur" is a critical aspect of the IRA. Indeed, under the IRA's own methodology, ultimately, the "quantitative estimate of that likelihood is translated into a qualitative description according to the nomenclature" in Table 12 in order to apply the IRA's "risk estimation matrix".[452] Thus the existence of "definitional correspondence" is fundamental to the credibility of the IRA's entire methodology.

2.266 Australia claims that "in truth, the qualitative label "negligible" has been assigned to the quantitative range, rather than the range being assigned to the label."[453] In fact, however, the reverse appears to be the case: the IRA started life as a qualitative risk assessment (adopting quantitative aspects only part way though in response to "stakeholder comments"); and Table 12 sets out "corresponding" quantitative and qualitative definitions transposed directly from the 2001 *Draft Guidelines*.[454] But in any event, Australia's argument is beside the point. The table in the IRA makes clear that "negligible" events are, qualitatively, events that almost certainly would not occur, and, quantitatively, represented by the interval (0 to 10^{-6}). This interval is then used to model the lowest probability events in the IRA. The likelihood labels, and their qualitative and quantitative descriptions, are clearly intended to "correspond" with each other. Whether it was the chicken or the egg that came first, the two are inextricably linked.

2.267 Finally, in this context Australia considers it "crucial" that the IRA Team "considered carefully whether they were confident that the range they had chosen would

[452] IRA, Part B, p. 42; see also appellant submission of Australia, para. 43.

[453] Appellant submission of Australia, para. 155.

[454] See also Dr Sgrillo's observation that "[t]he probability interval seems to have been arbitrarily chosen to represent the qualitative descriptors" in compilation of expert replies, para. 755.

contain the actual value and that the chosen distribution reflected their beliefs."[455] However, this also misses the point. The negligible interval used in the IRA indisputably "contains the actual value" – after all it includes the value zero and values close to zero. The problem is that with a maximum value of one in a million (apples) the interval is so broad that it also includes values that significantly overestimate the risk. In addition, the application of a uniform distribution results in these overestimated values being significantly over-represented in the outcomes of the model.[456] As the Panel noted "[t]his means that the model will tend to over represent the numbers in the higher end of the chosen range, instead of clustering closer to zero"[457], as might be expected for events that "almost certainly would not occur".

2.268 Clearly, the interval and distribution used in the IRA to model "negligible" (or the lowest probability) events was not appropriate, when considered on a per-apple basis, to model events that "almost certainly would not occur." The Panel was correct to conclude that this was a fundamental flaw in the IRA.

(b) The Panel understood how the model worked and did not believe that the interval 0 to 10^{-6} necessarily predicted an event happening "relatively frequently each year"

2.269 Australia claims that the Panel did not understand that "only a fraction of the total volume of apples imported will be infested and discarded as waste at a utility point within proximity to a host."[458] Yet Australia points to nothing to support its allegation that the Panel did not understand this point. Indeed, it is evident from Australia's own submissions to the Panel in this case that the Panel fully understood this point. Australia stated:

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[455] Appellant submission of Australia, para. 155.

[456] As noted by Dr Sgrillo in compilation of expert replies, paras. 786-787, 90% of the values produced when the model is run will fall in the highest order of magnitude, that is, in range of one in a million (apples) to one in ten million (apples).

[457] Panel Report, para. 7.495.

[458] Appellant submission of Australia, para. 157 (original emphasis).

> The Chairman referred to the analogy of a funnel at the second meeting. This is helpful because it conveys the sense of a large number of apples being imported, but a smaller number of apples being of concern because they carry *E. amylovora* or *N. galligena*, and a smaller number of those apples being disposed of near hosts.[459]

2.270 As previously acknowledged by Australia, therefore, the Panel clearly understood the precise point which Australia now claims the Panel did not understand.

2.271 With regard to the exposure step for fire blight, Australia suggests that the Panel erred in believing that the negligible interval and uniform distribution used represented an event that would "occur relatively frequently each year".[460] However, once again, Australia points to nothing to support its allegation that this is what the Panel believed. Neither the section of the Panel Report dealing with the "exposure" step for fire blight, nor the section on methodology, contains anything to indicate that the Panel believed the negligible value used represented an event that would occur "relatively frequently each year". Rather, the Panel correctly found that the "use of a uniform distribution with a maximum of one in a million results in a likelihood of so-called 'negligible' events estimated to occur more frequently" than should be the case for events that would "almost certainly not occur".[461] The Panel's reference to "more frequently" is relative to the IRA's own qualitative definition of "negligible".

2.272 In other words, the Panel found that the interval and distribution actually used in the IRA for "negligible" likelihoods is not appropriate for modeling (on a per-apple basis) events that almost certainly would not occur. This is a significant flaw in the IRA, which seeks to model very low likelihood events that have never been known to occur and for which there is no scientific evidence to suggest they could occur. The exposure step for fire blight is a good example of this. As demonstrated above, Australia can only

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[459] Australia's responses to Panel questions after the second meeting with the experts, question 52, para. 287. See also, Australia's closing statement at the Panel's second substantive meeting with the Parties, para. 8: "Australia also notes the discussion of the interval $0\text{-}10^{-6}$, in particular, the exchanges between the Panel and the parties this morning. In this regard, Australia recalls the fundamental difference between the total population and the relevant population. The Chairman's funnel was a useful analogy."

[460] Appellant submission of Australia, para. 157.

[461] Panel Report, para. 7.495.

support its claim that the Panel erred in its review of this step by misrepresenting what the Panel "believed".

2.273 Indeed, there is some irony in the fact that Australia should now make an argument concerning the relevance of population size in assessing the appropriateness of the "negligible" interval in the fire blight analysis, given that the IRA's failure to do this very thing is the source of its flawed methodology. As noted above, there is no discussion in the IRA as to why intervals developed in a completely different context (the 2001 *Draft Guidelines*) were appropriate in the context of a unit (apples) traded in the tens (or, as assumed in the IRA, hundreds) of millions. Further, the IRA Team used exactly the same interval for lowest probability events (the interval set out in Table 12 corresponding to "negligible") no matter where in the pathway that it was assigned and irrespective of the relevant population at that step (a matter that was not even discussed in the IRA's assessment of fire blight).[462] In short, the Panel's findings on methodology simply reflect the fact that they understood the significance of the population size, and the IRA Team did not.

2.274 As it did before the Panel, Australia has quoted from New Zealand's second written submission which noted that the IRA's risk assessment predicts that the probability of entry, establishment and spread of fire blight is "1 in every 3.3 billion apples".[463] It uses this in an attempt to demonstrate that "the IRA did not conclude or imply that exposure would occur relatively frequently each year".[464] But as noted above, the Panel never suggested that "exposure would occur relatively frequently each year." Moreover, the figure quoted by Australia relates to the *overall* probability of entry,

[462] In addition, when specifically asked by the Panel to "describe the relevant population…at each stage of its assessment of the probability of entry, establishment and spread for the three pests at issue" and "identify the relevant passages in the Final IRA that contain this information", Australia was unable to provide the figures, or identify the sections in the IRA where such figures were considered. See, Australia's response to questions from the Panel following the second substantive meeting, Question 52, paras. 282-288. Australia did, however, refer approvingly in that response to the Panel Chairman's analogy of a funnel (para. 287).

[463] Appellant submission of Australia, para. 157.

[464] Appellant submission of Australia, para. 157.

establishment and spread, rather than exposure.[465] Indeed, had Australia used a smaller interval for the exposure step (say 0 to 10^{-8} rather than 0 to 10^{-6}) this would have had a very significant effect on the overall probability of entry, establishment, and spread for fire blight.[466]

(c) The Panel was correct to conclude that the methodological flaws were serious enough to constitute an independent basis for the IRA's invalidity

2.275 Australia alleges that the Panel "dealt with the alleged flaws in the abstract and divorced from their actual relevance to the estimates arrived at by the IRA Team."[467] This is incorrect. The Panel considered whether the intervals and distributions set out in Table 12 of the IRA adequately model on a per-apple basis a "negligible" event that "almost certainly would not occur." This was the interval used in over one third of all distributions in the IRA. This can hardly be said to be "abstract" or divorced from "actual relevance".

2.276 Australia also misrepresents the significance of the "negligible" interval to the fire blight assessment in stating that it is applied at "just <u>two</u> points (Importation Step 7 and exposure)."[468] In fact, the negligible interval is used in 22 of the 66 distributions used for fire blight.[469] It is true that 20 of these relate to different aspects of the

[465] The IRA defines **"**exposure" as "the likelihood of transfer of the pest from an infested or infected discarded apple (waste) to a susceptible host plant." (IRA, Part B, p. 27). It is a component in establishing the overall annual probability of entry, establishment and spread (see IRA, Part B, p. 31).

[466] Instead of predicting an outbreak every 3.3 billion apples imported, this would result in predicting an outbreak approximately every 330 billion apples imported, or, based on an estimated annual import volume of 150 million apples, approximately one outbreak every 2,220 years (contrasting to one outbreak every 22 years as currently predicted in the IRA). The probability of one outbreak in 2,220 years (.00045) corresponds to a qualitative likelihood of "extremely low" according to Table 12 of the IRA. Even if consequences are assessed as "high" this would bring the overall risk within Australia's ALOP according to the risk estimation matrix used in Table 11 of the IRA. See, also, New Zealand's reply to Panel question 70 after the second substantive meeting; and para. 4.204 of New Zealand's first written submission.

[467] Appellant submission of Australia, para. 158.

[468] Appellant submission of Australia, para. 158 (original emphasis).

[469] For fire blight, the interval defined as "negligible" in Table 12 of the IRA ($0,10^{-6}$) is used for twenty separate estimations in the exposure step (five utility points by four exposure group combinations, IRA, Part B, p. 90; see also appellant submission of Australia, para. 37, which states that "[t]he four exposure groups and five utility points schematically render twenty possible exposure pathways, for each of which the likelihood of exposure was considered separately), for importation step 7 (IRA, Part B, p. 79)

"exposure" step; however each of these uses exactly the same interval and distribution (0 to 10^{-6}, uniform), and hence each compounds the error.[470] In addition, Australia now admits that at importation step 7, the use of the "negligible" interval "results in 72 clean apples…becoming contaminated". This simply highlights the problems with the IRA's definition of "negligible". In the context of this step, something which is "negligible" and "almost certain not to occur" is given an interval and distribution that results in it being predicted to occur 72 times in one year.

2.277 Finally, in relation to the exposure step, Australia falls back on a single statement by Dr Deckers taken out of context and a general statement by Dr Schrader about uniform distributions which is not directed at the particular negligible interval used in the IRA in this case.[471] New Zealand has already demonstrated the fallacies in Australia's arguments on this point.[472] In addition, New Zealand notes that the two experts that did comment specifically on the IRA's methodology in this regard, Dr Sgrillo and Dr Latorre, agreed that there were fundamental problems with the IRA's treatment of the "negligible" interval.[473]

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and for P9 of the waste model (IRA, Part B. p. 26). It is also used for importation step 3b (IRA, Part B, p. 22) but for fire blight no apples are assumed to follow the pathways influenced by this step. In all but importation step 7, the uniform distribution is used with the interval, resulting in a midpoint for the interval of one in two million. For importation step 7, a triangular distribution is used, with a midpoint of one in two million.

[470] See, for example, footnote 466 above.

[471] Australia's statement that "With respect to exposure…Dr Schrader testified that the distribution was useful" (para. 158) misrepresents Dr Schrader's statement. Dr Schrader was not commenting on the "exposure" step or indeed on the intervals or methodology used in the IRA. Rather, Dr Schrader was responding to a general question by the Panel asking the experts to compare the uniform, triangular and PERT distributions and the advantages and disadvantages of each. In this context Dr Schrader stated that a uniform distribution is "the simplest and least realistic method of the three methods mentioned here and is useful in situations, where a minimum and maximum value are available, but no sufficient information to determine the most likely value. This method implies a high degree of uncertainty."

[472] See New Zealand's response in the sections on Article 5.1 and Article 11 of the DSU above.

[473] See, for example, Dr Sgrillo's statements: "[the numeric probabilities] should reflect the category concepts also in populational terms but this is not occurring in the present case" (Question 134); "there is much more chance of sampling a number close to the upper bond [bound] than close to zero" (Question 136); "it would be much more coherent to choose an upper limit, maybe of ten to the minus twelve, or to the minus sixteen, or anything like that, as negligible." (para. 136, in transcript of meeting with the experts); "Actually I was trying to find out a solution for the negligible event. I mean that "negligible" means "negligible", when you treat with the population. That is my problem with your choices." (para. 202, transcript of meeting with the experts); "this is another try to solve the problem of the term "negligible", trying to generate a number more close to zero than close to the upper part of the

2.278 For the reasons outlined above, Australia is incorrect to assert that the Panel had a "fundamental misunderstanding of a significant aspect of Australia's risk assessment methodology". [474] Australia's appeal in this regard should therefore be rejected.

2.279 For all of the above reasons, Australia's claim that the Panel failed to make an "objective assessment of the matter" in accordance with Article 11 of the SPS Agreement should be rejected.

D MISINTERPRETATION OR MISAPPLICATION OF ARTICLE 5.6: GROUND D

2.280 Australia claims that the Panel's findings under Article 5.6 should be reversed for two reasons: "consequentially" upon a reversal of the Panel's findings under Article 5.1, and due to an alleged misinterpretation of Article 5.6 and a misapplication of the rules on burden of proof.[475] Australia's appeal of these points is based on a misunderstanding of the relevant obligations and a misreading of the Panel Report. It should be rejected.

1. Australia's request for "consequential reversal" should be rejected

2.281 Australia claims that if the Appellate Body reverses the Panel's findings under Articles 5.1, 5.2 and 2.2, consequentially the Panel's finding under Article 5.6 should also be reversed.[476] This is based on the view that the Panel made its findings under Article 5.6 "largely consequentially" upon its finding that the IRA was not a valid risk

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"negligible" range (para. 222 of transcript of meeting with the experts). See also, Dr Latorre's statements: "[i]f negligible is defined as a probability varying between 0 and 10^{-6}, using the midpoint 5 x 10^{-7} appears to overstate the likelihood of all biological events approaching zero, particularly if such an event has a remote possibility of occurring" (Replies to Panel Questions, comment on Guideline (g)); "these probability ranges are difficult to believe. One of the main weaknesses is the range used to numerically explain the negligible descriptor…by no means can a negligible event range from 0 to a maximum of $1x10^{-6}$ with a midpoint of $5x10^{-7}$. In doing so, the likelihood of a particular biological event is overestimated." (Response to Q133, para 766); "I would strongly suggest reviewing the probability values given in Table 12…accepting that the maximum probability to be assigned to a negligible event should be such that one can be almost certain that this event will not occur in a given population, and that the minimum value should be different from zero" (Q133 para 766);

[474] Appellant submission of Australia, para. 159.

[475] Appellant submission of Australia, para. 164.

[476] Appellant submission of Australia, para. 165.

assessment within the meaning of Article 5.1 and that, in reversing this finding, the basis for the Panel's finding under Article 5.6 "would fall away."[477]

2.282 New Zealand has already demonstrated why the Panel's findings under Articles 5.1, 5.2 and 2.2 should not be reversed, and therefore the conditions for Australia's claim of "consequential reversal" do not arise. In any event, as further elaborated below, Australia is not correct that the Panel's findings under Article 5.6 are "largely" consequential on its findings under Article 5.1. In asserting this, Australia ignores the second step of the Panel's analysis under Article 5.6 which concluded that New Zealand raised a sufficiently convincing presumption that mature, symptomless apples do not pose a risk above Australia's ALOP with respect to fire blight and ALCM.[478]

2.283 Moreover, Australia's more specific argument relating to fire blight is premised on the incorrect view that a reversal under Article 5.1 would constitute a finding that the IRA is "objectively justifiable."[479] However, a finding that the Panel erred in interpreting and applying Article 5.1 would not constitute a finding that the IRA is objectively justifiable. Moreover, as noted above, the Panel's assessment under Article 5.6 does more than simply rely on its finding under Article 5.1. A reversal under Article 5.1 would not, therefore, foreclose a conclusion that the risk associated with mature, symptomless apples is within Australia's ALOP.

2. The Panel correctly applied the rules relating to burden of proof in its treatment of the Article 5.6 claim

2.284 Australia argues that the Panel was in error in concluding that the alternative measures identified by New Zealand in respect of fire blight and ALCM would achieve Australia's ALOP.[480] In the view of Australia, in reaching that conclusion the Panel "misapplied the rules governing burden of proof."[481] The essence of the Australian

[477] Appellant submission of Australia, para. 165.

[478] Panel Report, paras. 7.1197, 7.1312 and 7.1328.

[479] Appellant submission of Australia, para. 166.

[480] Appellant submission of Australia, paras. 167 to 173.

[481] Appellant submission of Australia, para. 164.

argument is that instead of requiring New Zealand to show that its alternative measure "would" achieve Australia's ALOP, the Panel instead applied the much lesser standard – that the alternative measure "might" or "may" achieve Australia's ALOP.[482] However, Australia has mischaracterised the Panel's treatment of this question and is incorrect in claiming that the Panel misapplied the rules relating to burden of proof.

2.285 Notwithstanding Australia's attempt to confuse the matter by claiming that "[t]he language of a '*prima facie* case' is attended by considerable ambiguity",[483] the rules relating to burden of proof in WTO cases are relatively clear and free of controversy. As set out by the Appellate Body in *US - Wool Shirts and Blouses*, if a party "adduces evidence sufficient to raise a presumption that what is claimed is true, the burden then shifts to the other party, who will fail unless it adduces sufficient evidence to rebut the presumption."[484]

2.286 The consequence of failing to rebut that presumption was noted by the Appellate Body in *EC - Hormones* as follows: "It is also well to remember that a *prima facie* case is one which, in the absence of effective refutation by the defending party, requires a panel, as a matter of law, to rule in favour of the complaining party presenting the *prima facie* case."[485] If Australia is suggesting that the use of the word "requires" here creates a different and stricter burden of proof than that set out by the Appellate Body in *US - Wool Shirts and Blouses* then it is clearly mistaken.[486] Rather, and of relevance to the present dispute, the use of the word "requires" helpfully calls attention to the consequences of an unrebutted *prima facie* case.

2.287 In any event, Australia acknowledges that the Panel states the rules relating to burden of proof correctly and even that the Panel states its conclusion that New Zealand

[482] Appellant submission of Australia, para. 172.

[483] Appellant submission of Australia, para. 168 (emphasis in original).

[484] Appellate Body Report on *US – Wool Shirts and Blouses*, p. 14.

[485] Appellate Body Report on *EC – Hormones*, para. 104 (emphasis in original).

[486] Appellant submission of Australia, para. 169. Indeed, the original quote refers directly back to *US – Wool Shirts and Blouses* in footnote 64 of Appellate Body Report on *EC – Hormones*.

had established a *prima facie* case correctly.[487] What Australia claims, however, is that somewhere in between, "the Panel in fact applied a significantly lower standard" than the one it had articulated.[488] Yet this conclusion is based on looking only at part of what the Panel has done and ignoring the other part of the Panel's analysis of this matter.

2.288 Australia claims that in determining whether New Zealand had met its burden under Article 5.6, the Panel "relied virtually entirely upon its ultimate finding under the Art 5.1 claim as to the IRA's exaggeration of the risk associated with the importation of apples."[489] This is simply incorrect. As will be pointed out in subsequent paragraphs, the Panel's finding in respect of Article 5.1 was only the beginning of the Panel's analysis, not something on which it relied "virtually entirely". In fact, Australia acknowledges that there was more than reliance on the Panel's Article 5.1 analysis, but it dismisses it as only a review of the "perceived inadequacy of the scientific basis for intermediate estimates in the risk analysis".[490] Once again, Australia gives a misleading account of what the Panel did in fact.

2.289 Australia also seeks to isolate some sentences from the Panel's analysis and treats them as indicative of a surreptitious attempt by the Panel to establish a lesser burden of proof. Thus, the use of words such as "may be reason to believe" that measures are "exaggerated", or that an alternative measure "may" meet Australia's ALOP, or such measures "might sufficiently" reduce risk are all claimed to be evidence of the application of an "erroneous standard".[491] In the Australian lexicon, regardless of context or grammatical accuracy, failure to use the word "would" when talking about meeting Australia's ALOP is proof of a failure to apply the burden of proof correctly.

2.290 Australia's argument does not withstand serious analysis. It is based on removing context and glossing the language used by the Panel. It ignores completely the reality of what the Panel did, which was to adopt a two-step analysis in determining

[487] Appellant submission of Australia, para. 170.

[488] Ibid.

[489] Appellant submission of Australia, para. 171.

[490] Ibid.

[491] Appellant submission of Australia, para. 172.

whether New Zealand had established a *prima facie* case that its alternative measure would meet Australia's ALOP.[492]

2.291 Under the first step, the Panel sought to determine whether New Zealand had demonstrated that "Australia's calculation of the risk resulting of the importation of New Zealand apples is exaggerated".[493] If it was, the Panel said, this would cast doubt on whether risk exceeded the ALOP to the extent calculated by the IRA and cast doubt on whether the risk management measures in the IRA were warranted. In such circumstances, it would be appropriate to consider whether the less restrictive measure proposed by New Zealand "may meet Australia's ALOP".[494] The conditional language used by the Panel here was totally appropriate because it was seeking to establish not whether New Zealand had established a *prima facie* case, but whether it should move on to the second step.

2.292 Under the second step, the Panel would then "assess more directly whether, assuming that risk management measures are necessary, the alternative measures properly identified by New Zealand might sufficiently reduce the risk to, or below, Australia's ALOP."[495] Again, the conditional language was appropriate in this context because the Panel was describing a step in the process that would allow it to reach an ultimate conclusion on whether the alternative measure proposed by New Zealand would meet Australia's ALOP.

2.293 In following this two-step analysis in respect of fire blight, the Panel pointed out that it had concluded in its analysis of Article 5.1 that Australia had overestimated the risks from importing apples from New Zealand, and thus the first step of its analysis had been satisfied. New Zealand had "cast doubt on whether the fire blight risk would exceed Australia's ALOP to the extent calculated by the IRA, and warrant as strict risk management measures as those developed by the IRA."[496] In light of this, the Panel said,

[492] Panel Report, paras. 7.1137-7.1144.

[493] Panel Report, para. 7.1143.

[494] Ibid.

[495] Panel Report, para. 7.1144.

[496] Panel Report, para. 7.1153.

"there is no reason to believe that the alternative measure suggested by New Zealand would not meet Australia's ALOP"[497] and hence the Panel was warranted in moving to the second step.

2.294 In considering the second step, the Panel assessed "more directly whether…New Zealand has raised a presumption, not successfully rebutted by Australia, that its alternative measure sufficiently reduces the fire blight risk to, or below, Australia's ALOP."[498] Australia is incorrect to assert that under this step the Panel "proceeded only to review the perceived inadequacy of the scientific basis for intermediate estimates in the risk analysis".[499] Rather, the Panel assessed New Zealand's core contention in this case - that mature, symptomless apples do not pose a risk of transmission of fire blight or ALCM that exceeds Australia's ALOP – including by reference to comments by the experts assisting the Panel, and Australia's attempted rebuttal of this point, which was based solely on the validity of the IRA under Article 5.1.[500]

2.295 For fire blight, New Zealand argued that "there is no scientific evidence that mature, symptomless apples can provide a pathway for the transmission of fire blight."[501]

2.296 After surveying the experts' views on the issues bearing on this question, focusing on the risk posed by external (epiphytic) infestation which Australia conceded was of primary concern,[502] the Panel concluded "that the experts did not consider that the IRA contains any adequate scientific evidence to support the proposition that the introduction of fire blight via mature apple fruit has occurred or could occur."[503] In this context it is worth noting that Australia relied exclusively on the validity of its IRA to defend New Zealand's claim under Article 5.6, and did not seek to rely on evidence *not*

[497] Ibid.

[498] Panel Report, para. 7.1154.

[499] Appellant submission of Australia, para. 171.

[500] Panel Report, paras. 7.1155-7.1197.

[501] Panel Report, para. 7.1121.

[502] The Panel noted that the IRA Team's primary concern was external (epiphytic) infestation (Panel Report, para. 7.1160).

[503] Panel Report, para. 1186.

contained in the IRA.[504] It was, therefore, entirely appropriate for the Panel to consider the scientific evidence in the IRA, and test New Zealand's claim with the assistance of the experts. Taking into account the arguments of New Zealand and the views of the experts, the Panel concluded that, "New Zealand has raised a sufficiently convincing presumption, not successfully rebutted by Australia, that the alternative fire blight measure of restricting imports of New Zealand apples to mature, symptomless apples would meet this ALOP."[505] The term "sufficiently convincing" here simply tracks the language of *US-Wool Shirts and Blouses* that the evidence must be "sufficient" to raise a presumption that what is claimed is true and thus the burden shifts to the other party.[506]

2.297 In respect of ALCM, the Panel adopted the same approach. The Panel noted that it had concluded in the context of Articles 5.1 and 5.2 that there were "reasonable doubts about the IRA as a proper risk assessment evaluating the likelihood of entry, establishment and spread of ALCM into Australia."[507] It also took the view that there were flaws in the IRA's treatment of the alternative measure of a 600-unit inspection proposed by New Zealand.[508] The Panel found that the flaws in the IRA could have a "major impact" on risk;[509] that New Zealand "demonstrates" that the conditions for ALCM entry, establishment and spread will likely "almost never occur" even with the "worst case" infestation level;[510] and that the sample size should not be "adjusted to the infestation level but to the 'ALOP'".[511] Again, given that Australia relied exclusively on the validity of its IRA to defend New Zealand's claim under Article 5.6, the Panel's

[504] Australia's first written submission, paras. 1085 and 1086. Australia articulated its defence under Article 5.6 as follows: "As the Final IRA Report is a valid risk assessment within the meaning of Article 5.1 Australia is entitled to rely upon the Final IRA Report's findings as to the unrestricted risks associated with fire blight and European canker and the measures that should be taken to reduce those risks to achieve Australia's ALOP".

[505] Panel Report, para. 7.1197.

[506] Appellate Body Report on *US – Wool Shirts and Blouses*, p. 14.

[507] Panel Report, para. 7.1311.

[508] Panel Report, paras. 7.1314 to 7.1324.

[509] Panel Report, para. 7.1311.

[510] Panel Report, para. 7.1312.

[511] Panel Report, para. 7.1323.

approach in this regard was entirely appropriate.[512] In light of this and of the views of the experts as to the adequacy of the scientific evidence relied upon, the Panel concluded that New Zealand had established a *prima facie* case that a 600 unit sample would meet Australia's ALOP and that this had not been successfully rebutted by Australia.[513]

2.298 Thus, contrary to Australia's arguments, neither in respect of fire blight nor in respect of ALCM did the Panel simply rely on its Article 5.1 determination to conclude that New Zealand had established a *prima facie* case that its proposed alternative measures would meet Australia's ALOP. It looked at its Article 5.1 determination to see if it raised the possibility that the measures applied by Australia were exaggerated and whether the measures proposed by New Zealand might meet Australia's ALOP. It then moved on to consider more directly whether New Zealand had raised a sufficiently convincing presumption with regard to its key claims under Article 5.6, and whether Australia had provided sufficient rebuttal.

2.299 In fact, Australia's objection to the Panel's reference to Article 5.1 in its analysis of Article 5.6 is surprising, as Australia offered no rebuttal under Article 5.6 except for claiming the validity of the IRA under Article 5.1.[514] Having adopted this approach before the Panel, Australia cannot now claim that the Panel erred in having regard (with the assistance of the experts) to the evidence contained in the IRA in order to assess whether the alternatives proposed by New Zealand met Australia's ALOP. The Panel found that Australia's IRA significantly overestimated the risk. It found further that the IRA did not contain sufficient evidence of a risk that exceeded ALOP.

2.300 Accordingly, the Panel did more than rely on its findings under Article 5.1. It looked at the arguments made by New Zealand and the views of the experts, and it

[512] Australia articulated its defence under Article 5.6 as follows: "Australia based its measures on the findings in the Final IRA Report, which indicate that the unrestricted risk for ALCM is 'low', and therefore exceeds Australia's ALOP. The IRA Team assessed the 'alternative' measure proposed by New Zealand, but found that a 600-unit inspection system alone would not reduce the risks associated with ALCM sufficiently to achieve Australia's ALOP. As New Zealand has failed to show that the Final IRA Report is not valid, the Panel should find that New Zealand's claim under Article 5.6 has not been made out" (Australia's first written submission, para. 1092).

[513] Panel Report, para. 7.1328.

[514] See Australia's first written submission, paras. 1085, 1086 and 1092.

concluded that a *prima facie* case had been established. It also concluded that Australia had failed to rebut that *prima facie* case or the presumption to which it gave rise. In the absence of any such rebuttal, as Australia itself points out, the Panel was "required" to find in favour of New Zealand.[515] There was no "shifting" of the burden or reversal of the onus of proof as Australia claims.[516] In short, there is no evidence in the Panel's analysis that it did anything but apply correctly the rules relating to burden of proof.

2.301 Australia's claim that the Panel misapplied the rules governing the onus and burden of proof in its analysis of New Zealand's Article 5.6 claim is without foundation and should be rejected.

3. The Panel correctly interpreted Article 5.6

2.302 Australia claims that the Panel misinterpreted Article 5.6 in two ways: first, the Panel misinterpreted the phrase "appropriate level of sanitary or phytosanitary protection"; and second, the Panel misinterpreted the requirement that the alternative measure "would achieve" the Member's ALOP.[517]

(a) First alleged misinterpretation

2.303 Australia argues that the Panel's first misinterpretation of Article 5.6 relates to the words "appropriate level of sanitary or phytosanitary protection".[518] In particular, Australia asserts that *throughout* its consideration of New Zealand's Article 5.6 claims, the Panel failed to consider "potential biological and economic consequences", focusing solely on the likelihood of entry, establishment and spread.[519]

2.304 This is simply not an accurate description of the Panel's analysis. In its assessment of whether New Zealand had demonstrated that Australia's calculation of the

[515] Appellant submission of Australia, para. 169.

[516] Appellant submission of Australia, para. 173.

[517] Appellant submission of Australia, para. 174.

[518] Appellant submission of Australia, para. 174.

[519] Appellant submission of Australia, para. 176.

fire blight risk resulting from the importation of New Zealand apples is exaggerated, the Panel observed that it "had already found this to be the case" including that:

> …with respect to consequences, the Panel has found that the IRA's evaluation of the potential consequences associated with the entry, establishment or spread of fire blight into Australia does not rely on adequate scientific evidence and, accordingly, is not coherent and objective.[520]

2.305 Likewise, in the context of ALCM, the Panel refers back to its finding under Article 5.1 that:

> …with respect to its analysis of the likelihood of entry, establishment and spread of ALCM, and of the potential consequences associated with the entry, establishment or spread of ALCM into Australia, Australia's IRA is not a proper risk assessment within the meaning of Article 5.1 and paragraph 4 of Annex A of the SPS Agreement.[521]

2.306 The second step of the Panel's analysis focused on whether the alternative measures proposed by New Zealand would reduce risk to within Australia's ALOP. In arguing that "the Panel cannot have reached any conclusion about "risk" properly interpreted, associated with New Zealand's alternative measures"[522] Australia misinterprets New Zealand's arguments and the Panel's findings. For fire blight, New Zealand argued that there is no scientific evidence that mature, symptomless apples can provide a pathway for the transmission of fire blight.[523] In this regard the Panel found that New Zealand had raised a sufficiently convincing presumption that this is the case, concluding, *inter alia*, that "the experts did not consider that the IRA contains any adequate scientific evidence to support the proposition that the introduction of fire blight via mature apple fruit has occurred or could occur."[524] In this light, and in light of the Panel's previous findings that the IRA's assessment of consequences was not coherent and objective, the Panel was not required to consider consequences any further.

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[520] Panel Report, paras. 7.1145 and 7.1152 (emphasis in original).

[521] Panel Report, paras. 7.886 to 7.887 referred to in paras. 7.1300 and 7.1307 (emphasis added).

[522] Appellant submission of Australia, para. 176.

[523] Panel Report, paras. 4.69, 4.135 and 4.187.

[524] Panel Report, para. 7.1186.

2.307 Australia's further argument in relation to fire blight that the "Panel actually concluded that the alternative measure would lead to a likelihood of entry, establishment and spread that is 'very low'" in the sense of Australia's "Risk Estimation Matrix"[525] overlooks the fact that the Panel was not using the term "very low" in the way that it is used in the IRA. Indeed, under its Article 5.1 analysis the Panel had already concluded that the IRA Team's assessment of PEES as "very low" (in the sense that term is used in Australia's risk estimation matrix) was not objectively justifiable.[526] The Panel was clearly not contradicting itself in the paragraph referred to by Australia. Rather, the Panel was simply reiterating, in different words, its conclusions that the experts "did not consider that the IRA contains any adequate scientific evidence to support the proposition that the introduction of fire blight via mature apple fruit has occurred or could occur."[527] Similarly, and in the same section, the Panel quotes Dr Paulin's statement that a mature, symptomless requirement "can be considered to decrease the likelihood for entry, of the bacteria with fruits from very low to extremely low"[528] and states that:

> Dr Paulin's expert advice indicates that…limiting trade to "mature, symptomless apples" renders the risk extremely low and akin to the risk of bacteria making its way from New Zealand to Australia on air jet or some other mode of transport not connected to trade in apples.[529]

2.308 Likewise, the Panel noted that Dr Deckers "explains that apple fruit are not considered an important way of spreading fire blight disease and thus trade in apple fruit in Europe is not subject to fire blight control measures".[530] The purpose of the Panel's discussion in this regard, was not to redo the risk assessment according to Australia's risk estimation matrix, but rather to emphasise that taken in its "totality", the expert testimony supports New Zealand's *prima facie* case that the alternative measure identified by New Zealand would meet Australia's ALOP. Simply latching on to the Panel's use of the term

[525] Appellant submission of Australia, para. 176.

[526] Panel Report, para. 7.448.

[527] Panel Report, para. 7.1186.

[528] Panel Report, para. 7.1187.

[529] Panel Report, para. 7.1190.

[530] Panel Report, para. 7.1191.

"very low" does not prove that the Panel erred, or that it contradicted its earlier finding under Article 5.1, or that it misinterpreted the phrase "appropriate level of protection". As is abundantly clear from the Panel Report, the Panel well understood this concept and its import under the SPS Agreement.[531]

2.309 In relation to ALCM, after recalling its earlier findings that the IRA's assessment (including its assessment of consequences) was not "objectively justifiable", the Panel then went on to consider "[t]he IRA's assessment of ALCM risk management measures".[532] In the context of considering risk management measures, the Panel focused first on New Zealand's key contention that there is no evidence that the sequence of events required for ALCM establishment in Australia – many thousands of apples left outside of cold storage, uncovered, in the same place, over a considerable period of time, within the limited female ALCM flight range of newly unfurling apple leaves – would occur.[533] On this issue, the Panel concluded that New Zealand "demonstrates" that the conditions for ALCM entry, establishment and spread will likely "almost never occur" even with the "worst case" infestation level[534]. The Panel also addressed the IRA's approach to identifying measures for ALCM and assessing the effectiveness of New Zealand's proposed alternative, concluding that its approach was flawed because measures should not be "adjusted to the infestation level but to the ALOP".[535] In this context, and in light of its earlier finding that the IRA's consequences assessment was not objectively justifiable, the Panel was not required to consider consequences any further in this part of its assessment. Indeed, as the Panel correctly identified "[t]he Panel needs to review Australia's IRA, not conduct its own risk assessment".[536] Instead, the Panel's approach in this regard was to emphasise that its findings, taken in "totality", supported

[531] Panel Report, paras. 7.1136-7.1142, 7.1197 and 7.1329.

[532] Panel Report, para. 7.1301.

[533] See for example, Panel Report, paras. 4.23-4.25, 4.65, 4.78, 4.80, 4.146 and 4.193.

[534] Panel Report, para. 7.1312.

[535] Panel Report, para. 7.1323.

[536] Panel Report, para. 7.1330.

New Zealand's *prima facie* case that the alternative measure identified by New Zealand would meet Australia's ALOP.[537]

(b) Second alleged misinterpretation

2.310 According to Australia, the "second misinterpretation" concerns the phrase "would achieve" which Australia claims the Panel wrongly interpreted to mean "could" or "might".[538] Australia's arguments in this regard are virtually identical to those it raises in the context of its arguments on burden of proof and should be rejected for the same reasons. As explained above, it is simply not accurate to say that the Panel found that non-compliance with Article 5.1 is "sufficient" to entail non-compliance with Article 5.6. The Panel correctly found that where a risk assessment has been found to be not "objectively justifiable" under Article 5.1, and particularly where the risk has been found to be "overestimated", this "casts doubt" on whether the risk exceeds ALOP.[539] The Panel went on to find that the experts supported New Zealand's central contention in this case, namely that mature, symptomless apples do not pose a risk in excess of Australia's ALOP with respect to fire blight and ALCM.

2.311 Australia's attempt to set out what the Panel "should have" done in this case merely highlights the problem with Australia's criticisms of what the Panel actually did. Australia claims that the "correct question for a Panel assessing a claim of breach of Article 5.6 is to ask whether a "proper" risk assessment, conducted by the Member maintaining SPS measures, would *necessarily have* concluded that the alternative measure would achieve the Member's ALOP."[540] According to Australia, therefore, the "correct" approach would have been for New Zealand, and the Panel, to conduct a *de novo* assessment of the risk. Australia's attempts to deny that this is what its alternative test would require are unconvincing and contradictory. Australia states that:

[537] Panel Report, para. 7.1328.

[538] Appellant submission of Australia, para. 179.

[539] Panel Report, para. 7.1143.

[540] Appellant submission of Australia, para 179. (Emphasis added.)

> To be satisfied affirmatively on the basis of the evidence and arguments advanced by New Zealand that the alternative measure "would achieve" ALOP, in the sense that a proper risk assessment would necessarily conclude that the alternative measures would achieve ALOP, does not require an impermissible *de novo* review: the Panel does not have to determine what the risk in fact is and therefore does not have to perform a risk assessment, nor make judgements in the nature of a risk assessor; its task is simply to determine whether a risk assessment properly conducted would necessarily conclude that the alternative measure would achieve the Member's ALOP.[541]

2.312 New Zealand fails to understand how it would be possible to conclude that "a risk assessment properly conducted would necessarily conclude that the alternative measure would achieve the Member's ALOP" without actually performing that risk assessment. In this sense, Australia's misguided view on what the Panel should have done, merely reinforces the appropriateness of what the Panel actually did. The Panel properly noted that under Article 5.6 its "legal analysis" of whether a *prima facie* case has been established is different from a "scientific assessment" aimed at achieving the degree of "scientific certainty" that would come from a proper risk assessment.[542] The Panel recalled that its task was to assess:

> …whether New Zealand has raised a presumption, not successfully rebutted by Australia, that the alternative measures would achieve Australia's ALOP. Obviously, the Panel can conclude this only if New Zealand has advanced sufficient and convincing arguments and evidence to that effect.[543]

2.313 In taking issue with the Panel's approach in this regard Australia is requiring a degree of scientific certainty that can come only from performing a risk assessment. Australia's suggestion that such an approach is "demanded by the logic of the Appellate Body's guidance in *US/Canada – Continued Suspension*", and in particular a "limited mandate" of Panel review, is hard to follow.[544] A "limited mandate of review" argues

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[541] Appellant submission of Australia, para. 180 (emphasis in original).

[542] Panel Report, para. 7.1193.

[543] Panel Report, para. 7.1193.

[544] Appellant submission of Australia, para. 179.

against conducting a *de novo* review. It also suggests that an appropriate starting point in assessing compliance with Article 5.6 is with the risk assessment that purports to provide a basis for the measures being challenged. This is precisely what the Panel did in this case.[545]

2.314 Australia also criticises the Panel's statement that its finding that New Zealand established a *prima facie* case is a "legal, not a scientific finding" on the basis that this proves that the Panel has "failed to make the factual finding, critical to any finding of breach of Article 5.6, that the alternative measure proposed by New Zealand would meet Australia's ALOP."[546] Australia is mistaken. If the Panel's findings that New Zealand established its burden of proof, and that the alternative measure proposed by New Zealand would meet Australia's ALOP, were factual findings, they would not be subject to appellate review. Of course, the Panel's conclusions in this regard are *based on* certain factual findings. For example, in the present case, the Panel found that the IRA's assessment of risk was "overestimated"; that "the experts did not consider that the IRA contains any adequate scientific evidence to support the proposition that the introduction of fire blight via mature apple fruit has occurred or could occur"; and that New Zealand "demonstrates" that the conditions for ALCM entry, establishment and spread will likely "almost never occur". Once again, Australia's real objection here seems to be that the Panel did not conduct its own "proper" risk assessment to determine *de novo* whether the alternative measure "necessarily would" meet Australia's ALOP.

2.315 Australia's further claim that the Panel did not address New Zealand's argument for fire blight that "there is no scientific evidence that mature, symptomless apples can provide a pathway for the transmission of fire blight"[547] overlooks the fact that the Panel did consider this question and concluded, *inter alia* that "the experts did not consider that

[545] It is notable that Australia's arguments in this regard are contrary to the approach it took during the Panel phase of this dispute where it claimed that, in the context of Article 5.6 "the Panel must also be mindful of the standard of review" which requires that "where the suitability of a particular alternative measure has previously been evaluated as part of a risk assessment…a panel may not conduct a *de novo* review of whether that potential alternative measure would achieve a Member's ALOP. Whether a particular measure would achieve the ALOP involves scientific and technical judgement on the basis of relevant evidence and the particular circumstances" (Australia's first written submission, para. 209).

[546] Appellant submission of Australia, para. 182 (emphasis in original).

[547] Appellant submission of Australia, para. 183.

the IRA contains any adequate scientific evidence to support the proposition that the introduction of fire blight via mature apple fruit has occurred or could occur".[548] Likewise, Australia's suggestion that the Panel did not address New Zealand's argument for ALCM that if "the IRA had taken [relevant] matters into account, the unavoidable conclusion would have been that the unrestricted risk of ALCM…is negligible"[549] overlooks the fact that this is precisely what the Panel did consider and concluded, *inter alia*, that "the IRA has not properly considered a number of factors that could have a major impact on the assessment of the risk"[550] and that New Zealand "demonstrates" that the conditions for ALCM entry, establishment and spread will likely "almost never occur".[551] It is difficult to understand what more the Panel could have done without conducting a *de novo* review.

2.316 For the reasons set out above, Australia's claim that the Panel incorrectly applied the rules relating to burden of proof and erred in its interpretation and application of Article 5.6, and its request to reverse the Panel's findings under Article 5.6, should be rejected.

III. CONCLUSION

3.1 Australia's appeal in this case rests on reviving in a slightly modified form arguments that were rightly rejected by the Panel, seeking to have the Appellate Body take the place of the Panel as a trier of fact in weighing and assessing the evidence of experts, and seeking to shield the IRA from review by rewriting the law set out by the Appellate Body in *US/Canada Continued Suspension*.

3.2 As New Zealand has shown in this submission, none of Australia's arguments can be supported. Specifically:

[548] Panel Report, para. 7.1186.

[549] Appellant submission of Australia, para. 183 (emphasis in original).

[550] Panel Report, para. 7.1311.

[551] Panel Report, para. 7.1312.

a) The Panel was correct in finding that the 16 measures at issue "both as a whole and individually, constitute SPS measures within the meaning of Annex A(1) and are covered by the SPS Agreement".

b) The Panel was correct in its interpretation of what constitutes a "risk assessment" and it properly interpreted and applied Articles 2.2, 5.1 and 5.2 of the SPS Agreement.

c) The Panel did not misunderstand or fail to engage properly with the expert evidence in this case and nor did the Panel misunderstand the IRA's methodology; it made an "objective assessment of the matter" in accordance with Article 11 of the DSU.

d) The Panel was correct in reaching its conclusion under Article 5.6 that New Zealand had made a *prima facie* case, not rebutted by Australia, that the alternative measures proposed by New Zealand met Australia's ALOP. It properly interpreted and applied Article 5.6 and made an "objective assessment of the matter" in accordance with Article 11 of the SPS Agreement.

3.3 For all of the above reasons, New Zealand respectfully requests that the Appellate Body dismiss Australia's appeal against the decision of the Panel in *Australia – Measures Affecting the Importation of Apples from New Zealand*.