

U.S. AND EC BUSINESS CONFIDENTIAL INFORMATION REDACTED

*United States – Measures Affecting Trade in Large Civil Aircraft
(Second Complaint)
(DS353)*

RESPONSE OF THE UNITED STATES
TO THE SECOND SET OF QUESTIONS FROM THE PANEL TO THE PARTIES

April 14, 2008

TABLE OF REPORTS AND OTHER DOCUMENTS

Short Form	Full Citation
<i>Brazil – Aircraft (Article 21.5) (AB)</i>	Appellate Body Report, <i>Brazil – Export Financing Programme for Aircraft – Recourse by Canada to Article 21.5 of the DSU</i> , WT/DS46/AB/RW, adopted 4 August 2000
<i>Brazil – Aircraft (Article 21.5 II)</i>	Panel Report, <i>Brazil – Export Financing Programme for Aircraft – Second Recourse by Canada to Article 21.5 of the DSU</i> , WT/DS46/RW/2, adopted August 23, 2001
<i>Brazil – Tyres (AB)</i>	Appellate Body Report, <i>Brazil – Measures Affecting Imports of Tyres</i> , WT/DS332/AB/R, adopted 17 December 2007
<i>Canada – Aircraft (AB)</i>	Appellate Body Report, <i>Canada – Measures Affecting the Export of Civilian Aircraft</i> , WT/DS70/AB/R, adopted 20 August 1999
<i>Canada – Aircraft (Panel)</i>	Panel Report, <i>Canada – Measures Affecting the Export of Civilian Aircraft</i> , WT/DS70/R, adopted 20 August 1999, as modified by the Appellate Body Report, WT/DS70
<i>Canada – Wheat Exports (AB)</i>	Appellate Body Report, <i>Canada – Measures Relating to Exports of Wheat and Treatment of Imported Grain</i> , WT/DS276/AB/R, adopted 27 September 2004
<i>Diccionario de la Lengua Española</i>	Real Academia Española, <i>Diccionario de la Lengua Española, vigésima segunda edición</i> (2001)
<i>EC – Asbestos (AB)</i>	Appellate Body Report, <i>European Communities – Measures Affecting Asbestos and Products Containing Asbestos</i> , WT/DS135/AB/R, adopted 5 April 2001
<i>EC – Chicken Cuts (AB)</i>	Appellate Body Report, <i>European Communities – Customs Classification of Frozen Boneless Chicken Cuts</i> , WT/DS269/AB/R, WT/DS286/AB/R, adopted 27 September 2005
<i>EC – DRAMS</i>	Panel Report, <i>European Communities – Countervailing Measures on Dynamic Random Access Memory Chips from Korea</i> , WT/DS299/R, adopted 3 August 2005
<i>EC – Hormones (AB)</i>	Appellate Body Report, <i>European Communities – Measures Concerning Meat and Meat Products (Hormones)</i> , WT/DS26/AB/R, WT/DS48/AB/R, adopted 13 February 1998
EC Comments on US RPQ1	Comments of the European Communities on the Response of the United States to the First Set of Questions from the Panel to the Parties (December 21, 2007)

EC FWS	First Written Submission of the European Communities, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)(DS 353)</i> (Feb. 9, 2007)
EC OS1	Oral Statement by the European Communities at the First Substantive Meeting of the Panel with the Parties – Non-Confidential Session, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)(DS353)</i> (September 28, 2007)
EC OS2	Non-Confidential Oral Statement by the European Communities at the Second Substantive Meeting of the Panel with the Parties – Non-Confidential Session, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)(DS353)</i> (January 16, 2008)
EC OS2 (conf.)	Oral Statement by the European Communities at the Second Substantive Meeting of the Panel with the Parties – Confidential Session, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)(DS353)</i> (January 17, 2008)
EC RPQ1	Response of the European Communities to the First Set of Questions from the Panel to the Parties (December 5, 2007)
EC SWS	Second Written Submission of the European Communities, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)(DS 353)</i> (Nov. 19, 2007)
<i>Korea – Commercial Vessels</i>	Panel Report, <i>Korea – Measures Affecting Trade in Commercial Vessels</i> , WT/DS273/R, adopted 11 April 2005
<i>New Shorter Oxford English Dictionary</i>	<i>The New Shorter Oxford English Dictionary on Historical Principles</i> (Clarendon Press, Oxford) (1993)
<i>US – DRAMS CVD (AB)</i>	Appellate Body Report, <i>United States – Countervailing Duty Investigation on Dynamic Random Access Memory Semiconductors (DRAMS) from Korea</i> , WT/DS296/AB/R, adopted 20 July 2005
<i>US – Gambling (AB)</i>	Appellate Body Report, <i>United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services</i> , WT/DS285/R, adopted 20 April 2005
<i>US – Section 301</i>	Panel Report, <i>United States – Sections 301-310 of the Trade Act of 1974</i> , WT/DS152/R, adopted 27 January 2000
<i>US – Softwood Lumber CVD Final (AB)</i>	Appellate Body Report, <i>United States – Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada</i> , WT/DS257/AB/R, adopted 17 February 2004

<i>US – Softwood Lumber CVD Final (Panel)</i>	Panel Report, <i>United States – Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada</i> , WT/DS257/R and Corr.1, adopted 17 February 2004, as modified by the Appellate Body Report, WT/DS257
<i>US – Upland Cotton (AB)</i>	Appellate Body Report, United States - Subsidies on Upland Cotton, WT/DS267/AB/R, adopted 21 March 2005
<i>US – Upland Cotton (Panel)</i>	Panel Report, <i>United States – Subsidies on Upland Cotton</i> , WT/DS267/R, adopted 21 March 2005, as modified by the Appellate Body Report, WT/DS267/AB/R
<i>US – Wool Shirts (AB)</i>	Appellate Body Report, <i>United States – Measure Affecting Imports of Woven Wool Shirts and Blouses from India</i> , WT/DS33/AB/R and Corr.1, adopted 23 May 1997
US Comments on EC RPQ1	Comments of the United States on the Response of the European Communities to the First Set of Questions from the Panel to the Parties (December 21, 2007)
US FWS	First Written Submission by the United States, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint) (DS353)</i> (July 6, 2007)
US OS1	Oral Statement of the United States at the First Substantive Meeting of the Panel with the Parties, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint) (DS353)</i> (September 26, 2007)
US OS2	Oral Statement of the United States at the Second Substantive Meeting of the Panel with the Parties, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint) (DS353)</i> (January 16, 2008)
US OS2 (conf.)	Confidential Oral Statement of the United States at the Second Substantive Meeting of the Panel with the Parties – Confidential Session, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint) (DS353)</i> (January 16, 2008)
US RPQ1	Response of the United States to the First Set of Questions from the Panel to the Parties (December 5, 2007)
US SWS	Second Written Submission of the United States, <i>United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)(DS 353)</i> (Feb. 9, 2007)

I. GENERAL ISSUES

A. BEST INFORMATION AVAILABLE AND ADVERSE INFERENCES

108. *The United States claims that "the only basis for a Panel taking adverse inferences under the SCM Agreement is if a party fails to cooperate with information gathering under Annex V of the SCM Agreement." (US Comments on EC RPQ1, footnote 26) How does the United States reconcile that proposition with the statements found at para. 202 and footnote 128 of the Appellate Body report in Canada – Aircraft?*

1. The United States made this statement as part of its response to Question 2, which sought comments regarding the EC's request that the Panel "adopt" its assertions regarding the U.S. programs subject to this dispute as an "adverse inference." The United States understands this request as being the EC's proposal of a penalty in response to what the EC asserts was "non-cooperation in the information-gathering process." The United States has shown repeatedly that the predicate of the EC's request does not exist, as the United States has cooperated fully with all information gathering related to the EC's claims of subsidization of large civil aircraft. The point that the United States sought to make in the statement quoted in this question is that the only basis under the SCM Agreement for punitive adverse inferences – like the ones urged by the EC – lies in Annex V. This view is fully consistent with paragraph 202 and footnote 128 of *Canada – Aircraft (AB)*.

2. It is important to note that the "adverse inferences" discussed by the Appellate Body in *Canada – Aircraft* were qualitatively and quantitatively different than those sought by the EC in this dispute. Canada had refused to submit specific information in its possession that the panel requested, defending its decision with reasons that the Appellate Body subsequently found "less than persuasive."¹ Brazil had asked the Panel to take "adverse inferences" that the information in question "was in its nature or tenor, adverse to Canada and supportive of Brazil's claim that EDC's debt financing, at least in that particular transaction, amounted to a prohibited export subsidy."² The Appellate Body emphasized that

the "adverse inference" that Brazil believes the Panel should have drawn is not appropriately regarded as a punitive inference in the sense of a "punishment" or "penalty" for Canada's withholding of information. It is merely an inference which in certain circumstances could be logically or reasonably derived by a panel from the facts before it.³

¹ *Canada – Aircraft (AB)*, para. 196.

² *Canada – Aircraft (AB)*, para. 199.

³ *Canada – Aircraft (AB)*, para. 200.

The Appellate Body emphasized that a panel evaluating such an inference “should examine very closely indeed whether the full *ensemble* of the facts on the record reasonably permits the inference urged by one of the parties to be drawn”⁴

3. In contrast, the EC does not seek inferences “logically” or “reasonably” derived from the facts. Nor does it base its request on the “ensemble” of the facts. In its first written submission, the EC sought a generalized finding to “accept the information presented herein as the best information available and, as appropriate, draw adverse inferences in accordance with the principles described in the next section.”⁵ Nor did the EC place its assertions of non-cooperation in the context of all the facts.⁶ Rather, it contends that those assertions alone justify a conclusion that the other assertions by the EC are “the best information available” and the taking of the adverse inference that the United States provided subsidies in the amounts alleged by the EC.

4. It is also significant that the Appellate Body differentiated between “punitive” inferences and “logical” inferences, placing Brazil’s request for “adverse” inferences in the latter category. Thus, when the Appellate Body discussed “adverse inferences” in paragraph 202, it was discussing inferences that a panel could draw from the facts before it, including a party’s failure to provide information in its possession that related to a fact in dispute, to reach a conclusion adverse to the party’s contentions. This type of “adverse” inference is no different than any other inference that panels may make (and routinely do make) based on the evidence before them.

5. However, Annex V appears to envisage something more. Given a panel’s inherent authority to reach a conclusion adverse to a party’s contentions based on the ensemble of the facts, the principle of effectiveness in treaty interpretation indicates that “adverse inferences” under paragraph 7 of Annex V involves an inference more “adverse” than would otherwise be available. The kind of punitive inference the EC seeks would fall into this category. Thus, the

⁴ *Canada – Aircraft (AB)*, para. 204 (emphasis in original).

⁵ EC FWS, para. 62. The “next section” alleged (incorrectly) that the United States had failed to respond to information requests raised by the EC through Annex V proceedings and domestic U.S. freedom of information filings. EC FWS, para. 67. In fact, the United States provided large volumes of information during the Annex V process in DS317, and offered to seek a DSB decision making that information available to the Panel. Letter from the United States to the EC (Jan. 14, 2007); Letter from the United States to the Panel, p. 2 (Jan. 23, 2007). The EC rejected this offer. Letter from the EC to the Panel, p. 2 (Mar. 5, 2007). The EC provides no basis in the covered agreements or the DSU that a *panel* should take an adverse inference based on *allegations* that a responding party has not provided as much information under its domestic information disclosure laws as the complaining party would like.

⁶ For example, the EC could not (and did not) point to any failure by the United States to respond to the Panel’s requests for information for the simple reason that, up to the point of its request, the Panel had not made such requests of the United States.

U.S. observation that Annex V is the only basis for taking adverse inferences of the kind sought by the EC is fully consistent with the Appellate Body's reasoning.⁷

6. Accordingly, the Appellate Body's discussion of non-"punitive" adverse inferences based on the specific "facts before the panel" provides no support for the EC's blanket request to accept the information provided by EC as the "best available" and to take adverse inferences with regard to the programs that the EC has alleged to be subsidies.

109. *Would the parties agree that, in the absence of actual data regarding the amount of an alleged subsidy, a panel may base its findings on an estimate of the amount of the subsidy? How is the use of estimates consistent with a panel's requirement to make an "objective assessment of the facts of the case" within the meaning of Article 11 of the DSU? Must a panel find "non-cooperation" within the meaning of paragraph 6 of Annex V, justifying reliance on "best information available" or the drawing of "adverse inferences", in order to rely on estimates regarding the amount of an alleged subsidy?*

7. The questions for a panel evaluating a claim of inconsistency with one of the covered agreements are, first, whether the complaining party has made a *prima facie* case of inconsistency and, if so, whether the responding party has met its burden of rebuttal. Nothing in the SCM Agreement or the DSU precludes either party from using estimates to meet its burden of proof. Therefore, if an estimate, together with other evidence or by itself, has sufficient probative value to establish or successfully rebut a *prima facie* case, a panel may base its finding in whole or in part on that estimate. This is especially the case in dealing with the amount of an alleged subsidy in evaluating its magnitude for purposes of Article 5 and 6.3. As the Appellate Body noted in *US – Upland Cotton*, "a panel should have regard to the magnitude of the challenged subsidy and its relationship to prices of the product in the relevant market when analyzing whether the effect of a subsidy is significant price suppression," but "{a} precise, definitive quantification of the subsidy is not required."⁸

8. The Appellate Body has found that an "objective assessment of the facts of the case" implies "among other things, that a panel must consider all the evidence presented to it, assess its credibility, determine its weight, and ensure that its factual findings have a proper basis in that evidence."⁹ Therefore, use of an estimate is consistent with the objective assessment required under Article 11 if the panel assesses the credibility of the estimate, considers its evidentiary weight along with all of the other evidence, and ensures that the estimate is a proper basis for any

⁷ The United States notes that the Appellate Body also found that paragraph 7 of Annex V provides authority for taking adverse inferences in a dispute under Article 3. The United States finds the Appellate Body's reasoning on this point less than persuasive. However, that issue is not before this Panel.

⁸ *US – Upland Cotton (AB)*, para. 467.

⁹ *Brazil – Tyres (AB)*, para. 185.

findings it seeks to derive based on that estimate. In fact, use of an estimate may be necessary because exact data does not exist or is too voluminous to obtain and process.

9. Therefore, a finding of noncooperation within the meaning of Annex V, paragraph 6, is not necessary for a panel to base its findings on an estimate.

B. TERMS OF REFERENCE

110. *At para. 43 of its Comments on EC RPQ1, the United States indicated that "[i]n response to this question the EC states that a "future measure" is a measure that was "not in existence and/or not committed to at the time the Panel was established." It then asserts that none of the challenged measures in the dispute are "future measures." This is not correct." (footnotes omitted) When the United States indicates that "this is not correct", is it referring to the European Communities' definition of a "future measure", or the European Communities' assertion that none of the challenged measures in the dispute are "future measures" as defined by the European Communities ?*

10. In paragraph 43 of the Comments of the United States on EC RPQ1, the statement "This is not correct" was a reference to the EC's assertion that none of the challenged measures in the dispute are future measures. Even under the EC's definition of a future measure, there are future measures at issue in this dispute. As the United States has previously explained, the second set of Industrial Revenue Bonds ("IRBs") that the City of Wichita, Kansas issued to Spirit Aerosystems, Inc. ("Spirit") is a future measure. These IRBs were issued pursuant to a city ordinance that was not passed until November 2006, which was well after the date of panel establishment in this dispute.¹⁰ In addition, any other IRBs that Wichita may issue to Spirit in the future are future measures. Furthermore, the Tax Increase Prevention and Reconciliation Act of 2005 enacted in May 2006, three months after the date of panel establishment in this dispute, is also a future measure outside the Panel's terms of reference.¹¹

C. "AS SUCH" VS. "AS APPLIED" CLAIMS

111. *The Panel understands the European Communities to be claiming that certain measures, including the Master Site Agreement and FSC/ETI-related measures, mandate the provision of certain subsidies. In other words, the Panel understands the European Communities to be making, in respect of these measures, not only "as applied", but also "as such" claims. The United States has argued that no payments have been made / will be made, and/or that no revenue has been / will be foregone, under certain measures. In WTO dispute settlement, can a responding party successfully defend itself against an "as such" claim by demonstrating that the provision has not been applied?*

¹⁰ Wichita City Council Ordinance No. 47-303 (Exhibit EC-177).

¹¹ US Comments on EC RPQ1, para. 44.

11. The United States has previously recognized that “measures mandating the foregoing of revenue that is otherwise due can be challenged as such in WTO dispute settlement proceedings.”¹² An “as such” claim is based on evidence that a measure mandates a violation of WTO obligations;¹³ accordingly, evidence with respect to whether a measure has or has not been applied will not be relevant, by definition, in rebutting an “as such” claim of a violation of a WTO obligation.

12. The EC has put forth neither argument nor evidence to make any “as such” claims regarding alleged subsidies under Part III of the SCM Agreement. While the EC appears to have argued that certain challenged measures mandate the provision of a subsidy, it has not argued that they mandate the provision of subsidies in breach of the U.S. obligations under Part III of the SCM Agreement. In other words, the EC’s argument that certain measures mandate the provision of subsidies is relevant to only one of the elements necessary to sustain an “as such” claim under Part III of the SCM Agreement.¹⁴

13. The EC has also not sustained an “as applied” claim. For this type of claim, regardless of whether the EC were able to demonstrate that the challenged measures mandate the provision of a financial contribution and a benefit, it would also have to show that the measures have actually been applied – and in particular, that actual benefits were conferred – in order to sustain an argument that the measures, as applied, have had a particular adverse effect. Thus, the United States considers (and the EC has agreed¹⁵) that evidence demonstrating that these measures have not actually been applied – *i.e.*, no financial contribution has actually been provided and/or no benefit has actually been conferred – rebuts the EC’s actionable subsidy claims.

D. MEASURE(S) AT ISSUE

¹² US RPQ1 (Q31), para. 80.

¹³ See *Canada – Aircraft (Panel)*, para. 9.124; *Brazil – Aircraft (Article 21.5 II)*, paras. 5.9-5.13; *Korea – Vessels (Panel)*, paras. 7.60-7.67.

¹⁴ The United States recalls that a Member breaches no obligation under the SCM Agreement merely by providing a non-prohibited subsidy. Instead, the provision of a non-prohibited subsidy breaches the SCM Agreement only if it causes adverse effects within the meaning of Articles 5 and 6 of the SCM Agreement.

¹⁵ See EC Comments on US RPQ1, para. 110.

II. SUBSIDY PROGRAMMES

A. GENERAL INTERPRETATIVE ISSUES RELATING TO ARTICLES 1 AND 2

1. Financial Contribution

(a) *"a government practice involves a direct transfer of funds (e.g. grants, loans, and equity infusion)"*

113. *The United States responds to the European Communities' argument based on the ordinary meaning of the terms of Article 1.1(a)(1)(i) by indicating that "the context provided by clause (iii) demonstrates that clause (i) has a more limited reach than it might be given if it stood alone." (US Comments on EC RPQ1, para. 46) Is the United States acknowledging that the ordinary meaning of the terms of Article 1.1(a)(1)(i) is broad enough to cover purchases of services that involve monetary payments?*

14. As with many provisions of the covered agreements, interpreting Article 1.1(a)(1)(i) outside of its context might lead to a misinterpretation. The point the United States sought to make in the passage referenced in this question was that the context provided by Article 1.1(a)(1)(iii) confirms and strengthens the conclusion that Article 1.1(a)(1)(i) does not cover purchases of services.¹⁶ Article 1.1(a)(1)(i) specifies that a financial contribution exists when “a government practice involves a direct transfer of funds (e.g. grants, loans, and equity infusion), potential direct transfers of funds or liabilities (e.g. loan guarantees).” The use of the term “funds” in Article 1.1(a)(1)(i), but not in any of the other subparagraphs, suggests a focus on financial transactions, a conclusion furthered by the examples, all of which are either a simple payment of funds, or the payment of funds in exchange for a financial asset – a promise of repayment, a share in the ownership of an enterprise, or a loan guarantee. The absence of any reference to money paid for non-financial assets or services indicates that such transactions – which represent a significant portion of the money expended by any government – are not within the scope of the term “direct payments” as used in Article 1.1(a)(1)(i).¹⁷

¹⁶ The United States did not mean to suggest, however, that the ordinary meaning of Article 1.1(a)(1)(i), even if it could be interpreted in isolation from its context, has the broad scope ascribed to it by the EC.

¹⁷ The context provided by Article 1.1(a)(1)(iii) serves to strengthen this conclusion and, under the customary rules of international law for the interpretation of treaties, must be considered along with the ordinary meaning of Article 1.1(a)(1)(i). As Mr. Sinclair explained:

“{O}rdinary meaning” does not necessarily result from a pure grammatical analysis. . . . {T}here is no such thing as an abstract ordinary meaning of a phrase, divorced from the place which that phrase occupies in the text to be interpreted.

Ian Sinclair, *The Vienna Convention on the Law of Treaties*, p. 121 (2nd ed., 1984) (Exhibit US-1262). *See also US – Section 301*, para. 7.22 (“In reality, it is always some context, even if unstated, that determines which meaning is

115. What is the relevance of the following provisions of the WTO Agreements to the question of whether transactions involving the "purchase of a service" fall within the scope of Article 1.1(a)(1):

(a) Article 14(d) of the SCM Agreement;

15. Article 14 provides standards to guide the calculation of the benefit (if any) associated with particular financial contributions listed in Article 1. The first three subparagraphs address financial contributions referenced as examples of direct transfers of funds (loans and equity infusions) or potential direct transfers of funds (guarantees) in Article 1.1(a)(1)(i). The last, subparagraph (d), provides guidelines for calculating the benefit associated with "the provision of goods or services or purchase of goods," specifying that no benefit exists "unless the provision is made for less than adequate remuneration, or the purchase is made for more than adequate remuneration."

16. Subparagraph (d) provides more specific guidance on the method for calculating the benefit associated with the provision of goods or services or purchase of goods. Its existence suggests a perceived need for greater clarity on the evaluation of the benefit associated with government purchases or sales covered by the SCM Agreement. It is relevant to the interpretation of Article 1.1(a)(1)(iii) because it confirms that purchases of goods are in fact covered as financial contributions under Article 1.1(a)(1) and confirms that purchases of services are not within the scope of Article 1.1(a)(1). After all, if the purchase of services fell within Article 1.1(a)(1), as the EC insists, the need to clarify how to measure the benefit associated with such a "purchase" would be at least as great as for purchase of a good. Therefore, the silence of Article 14(d) as to purchase of services provides one more confirmation that such measures are not financial contributions.

17. The existence of Article 14(d) also confirms the distinction between transactions involving goods or services, on the one hand, and the purchase of equity, on the other hand, each type of transaction having its own standard for determining benefit. Thus, contrary to the EC's argument, the inclusion of purchases of equity under Article 1.1(a)(1)(i) does not imply that that provision covers other types of purchases, like purchases of services.¹⁸

(b) Articles XIII and XV of the GATS; and

18. Article XIII:2 of the GATS provides that "{t}here shall be multilateral negotiations on government procurement in services under this Agreement within two years from the date of entry into force of the WTO Agreement." This reference indicates an understanding that the

to be taken as 'ordinary' and frequently it is impossible to give meaning, even 'ordinary meaning', without looking also at object-and-purpose.").

¹⁸ EC RPQ1, para. 42.

government procurement of services (which means the purchase of services by a government) is not otherwise covered within the GATS. The perceived need for such disciplines suggests that the other multilateral agreements do not apply to government purchases of services.

19. Article XV:1 of the *General Agreement on Trade in Services* (“GATS”) provides that “Members recognize that, in certain circumstances, subsidies may have distortive effects on trade in services. Members shall enter into negotiations with a view to developing the necessary multilateral disciplines to avoid such trade-distortive effects.” At the second Panel meeting, the United States indicated that this passage provided relevant context for Article 1.1(a)(1)(iii) of the SCM Agreement. Upon further reflection, we conclude that this is not the case.

20. Article XV:1 focuses on the effects of subsidies on trade in services, and envisages that negotiations might lead to disciplines to avoid such effects. It suggests that the covered agreements as currently drafted do not discipline the effect of subsidies on trade in services as such.¹⁹ In contrast, the SCM Agreement addresses subsidies that affect trade in *goods*. Therefore, the conclusion that the covered agreements do not contain disciplines on subsidies affecting trade in services provides no guidance on the separate question of whether the SCM Agreement covers subsidies to services *to the extent that they affect trade in goods*. Instead, as we have shown, Article 1.1(a)(1) itself answers that question in the negative with regard to the government purchase of services.

(c) *Article III:8(b) of the GATT 1994.*

21. Article III:8(b) of the *General Agreement on Tariffs and Trade 1994* (“GATT 1994”) states a general rule that Members may pay subsidies exclusively “to domestic producers,” and then provides an open list of the types of payments that may be limited to domestic producers. Subsidies “effected through governmental purchases of domestic products” are one such type of subsidy. These provisions reflect the focus under Article III on the treatment of “products” and “production”²⁰ There is, accordingly, no basis to consider that they are relevant to the question of whether purchases of services are financial contributions under the SCM Agreement. The call in Article XIII of the GATS for “multilateral negotiations on government procurement in services” confirms that existing provisions of the covered agreements do not cover these activities.

116. *Article 31(2) of the Vienna Convention on the Law of Treaties (“Vienna Convention”) provided that the context of a treaty comprises, among other things, certain agreements*

¹⁹ The United States notes, for example, that some Members specifically exclude subsidies from the coverage of their schedules of specific commitments.

²⁰ *E.g.*, GATT 1994 Art. III:1 (certain measures “should not be applied to imported or domestic products so as to afford protection to domestic production”); Art. III:2 (“The products of the territory of any contracting party imported into the territory of any other contracting party shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products”).

and instruments made in connection with the conclusion of the treaty (and, in the case of instruments, accepted by the other parties as an instrument related to the treaty). At para. 95 of its FWS, the United States refers to certain documents (e.g. United Nations Provisional Central Product Classification) that classify "R&D services" as "services". Should these documents be taken into account pursuant to Article 31(2) for the purpose of determining whether "R&D services" constitute a "service" for the purposes of Article 1.1(a)(1)?

22. The United States cited the United Nations Provisional Central Product Classification, the U.S. Federal Service Classification, and the EC Common Procurement Vocabulary in paragraph 95 of its FWS as additional evidence of the ordinary meaning of the term “services” as including R&D, in accordance with Article 31(1) of the Vienna Convention. The United States did not mean to suggest treating these documents as agreements and instruments made in connection with the conclusion of a treaty, in this case, the WTO Agreement. They are not. The U.N. CPC is a system assembled for general and widespread use in classifying goods and services, and was not made in connection with the conclusion of the SCM Agreement. The U.S. and EC classification systems are specific to particular Members and, therefore, not subject to treatment as either an agreement relating to the multilateral SCM Agreement or an instrument made in connection with the conclusion of that agreement under Article 31(2) of the Vienna Convention.

23. Paragraph 95, footnote 96, of the US FWS also references the Services Sectoral Classification List, MTN.GNS/W/120 (“W/120”). This document warrants special note, as the Appellate Body has found in *US – Gambling* that W/120 was not context for interpretation of a Member’s schedule of specific commitments under the GATS because the circulation of that document by the GATT Secretariat did not constitute its acceptance by the parties as an agreement or instrument related to the treaty.²¹ The Appellate Body accepted that W/120 constituted preparatory work with status as a supplementary means of interpretation under Article 32 of the Vienna Convention.²² The United States considers this conclusion equally applicable to this dispute.

117. *Article 31(3)(a) of the Vienna Convention provides that there shall be taken into account, together with the context, "any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions". At para. 6 of its Oral Statement, Canada notes that Article XV of the GATS indicates that the regulation of subsidies in respect of services is a task for a future work programme of the Members and states that "the incomplete work programme of the Members in respect of service subsidies provides a good reason for the Panel to exercise caution in this area." Is the Panel correct in its understanding that the negotiations envisaged under Article XV of the GATS have not resulted in any "subsequent agreement" between WTO Members on the*

²¹ *US – Gambling (AB)*, paras. 175-176.

²² *US – Gambling (AB)*, para. 196.

question of whether transactions involving the "purchase of a service" fall within the scope of Article 1.1(a)(1) of the SCM Agreement?

24. Yes, the Panel is correct that the negotiations under Article XV of the GATS have not resulted in any subsequent agreement relevant to this dispute.

118. *Article 31(3)(b) of the Vienna Convention provides that there shall be taken into account, together with the context, "any subsequent practice in the application of the treaty which establishes the agreement of the parties". Is there any subsequent practice in the application of the SCM Agreement which establishes the agreement of Members on whether transactions involving the "purchase of a service" fall within the scope of Article 1.1(a)(1)?*

25. The United States is aware of subsequent practice demonstrating at least one Member's understanding of the language of Article 1.1(a)(1)(iii). U.S. law implementing the SCM Agreement provides that a subsidy exists if:

- (i) the direct transfer of funds, such as grants, loans, and equity infusions, or the potential direct transfer of funds or liabilities, such as loan guarantees,
- (ii) foregoing or not collecting revenue that is otherwise due, such as granting tax credits or deductions from taxable income,
- (iii) providing goods or services, other than general infrastructure, or
- (iv) purchasing goods.²³

This text, added to the U.S. countervailing duty law in 1994 to implement the SCM Agreement, reflects the U.S. understanding that purchases of services are not financial contributions. When a recent countervailing duty proceeding was appealed, the U.S. Court of Appeals for the Federal Circuit ruled that the plain meaning of this statutory language was "unambiguous" because:

Section 1677(5) is clear as to what constitutes a subsidy--and the purchase of a service by a foreign public entity, however related to the manufacture of a good, is not contemplated in the statute as being a subsidy. While the provision of services by a government entity to another entity for less than adequate compensation may be considered a subsidy, the plain language of § 1677(5) does not allow for the purchase of services by a government entity from another entity to be considered a subsidy.

Furthermore, § 1677(5)(D)(iii) clearly shows that Congress was aware of the distinction between contracts for services and contracts for goods. Aware of the

²³ 19 U.S.C. § 1677(5) (Exhibit US-1263).

distinction, Congress could have easily included the purchase of services by public entities in the statutory definition of a subsidy. Because it did not, we must assume that the omission was intentional. See *Clay v. United States*, 537 U.S. 522, 528, 155 L. Ed. 2d 88, 123 S. Ct. 1072 (2003) (“When Congress includes particular language in one section of a statute but omits it in another section of the same Act, we have recognized, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.” (internal quotations and citations omitted)).²⁴

26. The United States is unaware of any other examples of subsequent practice that would establish an agreement of the Members as to whether transactions involving the purchase of a service fall within the scope of Article 1.1(a)(1).

119. *What is the relevance of the following to the question of whether transactions involving the "purchase of a service" fall within the scope of Article 1.1(a)(1):*

- (a) *the "object and purpose" of the WTO Agreement;*
- (b) *the "object and purpose" of the SCM Agreement;*
- (c) *the "object and purpose" of Part III of the SCM Agreement; and*
- (d) *the "object and purpose" of Article 1 of the SCM Agreement.*

27. Article 31(1) of the Vienna Convention provides that “[a] treaty shall be interpreted . . . in light of its object and purpose.” This drafting makes clear that the relevant “object and purpose” is that of the *treaty*, and not the objects and purposes the interpreter might seek to derive from particular provisions or segments of the treaty. As the Appellate Body explained in *EC – Chicken Classification*,

It is well accepted that the use of the singular word “its” preceding the term “object and purpose” in Article 31(1) of the *Vienna Convention* indicates that the term refers to the treaty as a whole⁴⁴⁸; had the term “object and purpose” been preceded by the word “their”, the use of the plural would have indicated a reference to particular “treaty terms”. Thus, the term “its object and purpose” makes it clear that the starting point for ascertaining “object and purpose” is the treaty itself, in its entirety.²⁵

²⁴ *Eurodif, S.A. v. United States*, pp. 17-18 (Court of Appeals for the Federal Circuit, Mar. 3, 2005) (footnotes omitted) (Exhibit US-1264).

²⁵ *EC – Chicken Cuts (AB)*, para. 238.

28. With respect to the object and purpose of the SCM Agreement, the Appellate Body has found that

the object and purpose of the *SCM Agreement* . . . reflects a delicate balance between the Members that sought to impose more disciplines on the use of subsidies and those that sought to impose more disciplines on the application of countervailing measures. Indeed, the Appellate Body has said that the object and purpose of the *SCM Agreement* is to “strengthen and improve GATT disciplines relating to the use of both subsidies and countervailing measures, while recognizing, at the same time, the right of Members to impose such measures under certain conditions.”²⁶

This statement of the object and purpose of the SCM Agreement supports an interpretation of Article 1.1 that gives effect to its language by excluding government purchases of services.²⁷

29. The object and purpose of the WTO Agreement, of which the SCM Agreement is a part, is also relevant to the interpretation of Article 1.1(a)(1). In this regard, the United States notes that the preamble to the WTO Agreement states that Members are “*desirous* of contributing to these {earlier stated} objectives by entering into reciprocal and mutually advantageous arrangements directed to the substantial reduction of tariffs and other barriers to trade.” The reference to the “reciprocal and mutually advantageous arrangement” is another way of describing the “delicate balance” to which the Appellate Body referred in *US – DRAMs CVD* between the expansion of disciplines and the rights of Members to take certain types of measures. Therefore, the object and purpose of the WTO Agreement and the SCM Agreement lead in the same direction – to give force to both the disciplines on subsidies and language limiting the reach of those disciplines. With regard to Article 1.1(a)(1), that standard entails the recognition that purchases of services are not a financial contribution.

120. *Article 32 of the Vienna Convention provides that recourse may be had to the “the preparatory work of the treaty and the circumstances of its conclusion” as supplementary means of interpretation. The United States has referred the Panel to certain preparatory work relating to Article 1.1(a)(1)(iii). (US FWS, para. 48 and footnote 42) To what extent do the “circumstances of the conclusion” of the SCM Agreement shed any light on whether transactions involving the “purchase of a service” fall within the scope of Article 1.1(a)(1)?*

30. The United States is unaware of any circumstances of the conclusion of the SCM Agreement that shed light on whether transactions involving the purchase of a service fall within the scope of Article 1.1(a)(1).

²⁶ *US – DRAMs CVD (AB)*, para. 115, quoting *US – Softwood Lumber CVD Final (AB)*, para. 64.

²⁷ The United States addresses the object and purpose of the SCM Agreement at greater length in paragraph 52 of the U.S. Comments on EC RPQ1.

121. *If the Panel were to find in favour of the United States on the legal issue of whether or not transactions involving the purchase of services are excluded from the scope of Article 1.1(a)(1), which party would bear the burden of proof on the factual issue of whether or not the transactions at issue involve the purchase of a service?*

31. The United States and the EC agree that the complaining party bears the burden of making a *prima facie* case. In challenging an actionable or prohibited subsidy, that case must include the establishment of the existence of a financial contribution. Article 1.1(a)(1) defines a financial contribution in terms of a closed list of four classes of transactions. If an alleged payment does not fall within one of those classes, it is not a financial contribution. Thus, to make a *prima facie* case with regard to financial contribution, the complaining party must establish that a transaction comes within the bounds of one of the four clauses of Article 1.1(a)(1).

32. A party does not make a *prima facie* case of the existence of a financial contribution by simply ignoring aspects of a transaction that disqualify it for treatment under a particular clause.²⁸ As to whether or not a transaction involves the purchase of services, that is one of the conditions on the existence of a financial contribution, so the burden first rests with the complaining party. In this dispute, the EC has failed to make such a *prima facie* case. Nevertheless, the United States has presented evidence demonstrating that the payments to Boeing for R&D services were, in fact, purchases of services, which are not financial contributions for purposes of Article 1.1(a)(1). Thus, even if the Panel were to consider that the EC had met its initial burden of proof with regard to NASA and DoD payments for R&D services, the weight of the evidence at this stage supports a finding that there was no subsidy.

123. *The European Communities argues that the United States' interpretation of Article 1.1(a)(1) would result in an absurd distinction between IR&D/B&P reimbursements provided in conjunction with contracts for the purchase of goods versus IR&D/B&P reimbursements provided in conjunction with contracts for the purchase of services. (EC SWS, paras. 590) How does the United States respond to the European Communities' argument that its interpretation of Article 1.1(a)(1) leads to absurd results?*

33. The EC argument with regard to IR&D reimbursements associated with purchases of services merely echoes its broader arguments that the exclusion of purchases of services from the definition of financial contribution is “absurd” in the first place and that it is “absurd” to evaluate IR&D reimbursements in the context of the contracts under which they are made.²⁹ On the first point, if purchases of services are excluded from the definition of a financial contribution, then

²⁸ As the Appellate Body found in *US – Wool Shirts (AB)*, p. 14, “{w}e find it difficult, indeed, to see how any system of judicial settlement could work if it incorporated the proposition that the mere assertion of a claim might amount to proof.”

²⁹ EC SWS, paras. 350 and 586.

the payment for the service cannot be treated as a subsidy. Such payments, by necessity, cover the direct and indirect costs of supplying the service. If that is the case, then costs that would form part of a subsidy measure if included in the subsidized purchase of a good will not be a subsidy when they are included in the cost of a service. That is not an absurdity – it is a necessary implication of the exclusion of purchases of services.

34. To use an example in a transaction that the EC concedes is not a financial contribution, suppose the government provides free asphalt for specific roads. If the road is general infrastructure, that asphalt will not be treated as a subsidy. If the road is on the private property of a producer and used only by that producer, then the value of the asphalt could be treated as part of the subsidy. The asphalt is the same in both cases. The outcome is not “absurd,” as the definitions of a financial contribution in Article 1.1(a)(1) mandate differential treatment. The same holds true for purchases of services as opposed to financial contributions through purchases or grants. There is differential treatment, but it is the logical outcome of the analysis mandated by the SCM Agreement.

(b) *"a government practice involves ... a potential direct transfers of funds or liabilities"*

124. *The United States argues that the Master Site Agreement does not involve a "potential direct transfer of funds" because it "does not provide with certainty" that an alternative measure will be provided in the event of such change in circumstance. (US RPQ1, para. 120) The European Communities responds that "the lack of "certainty" is precisely what makes this a situation "involv[ing] ... potential direct transfers of funds ..." within the meaning of Article 1.1(a)(1)(i)." In its Second Oral Statement, the United States argues that Article 10.4.1 does not amount to a "potential direct transfer of funds" because it is "entirely speculative" what, if anything, a Public Party could provide under the provision or what, if any, remedy a court might impose. (US OS2, para. 113) Could the parties please set out their respective interpretations of the terms "potential direct transfer of funds", taking into account the customary rules of treaty interpretation and any relevant panel and Appellate Body reports.*

35. Article 1.1(a)(1)(i) provides that there is a financial contribution where “a government practice involves a direct transfer of funds (e.g. grants, loans, and equity infusion), potential direct transfer of funds or liabilities (e.g. loan guarantees).”

36. The ordinary meaning of “potential” is “adj. possible as opp. to actual; capable of coming into being or action; latent.”³⁰ Indeed, among the definitions of the noun “potential” is “capacity for use or development, resources able to be used or developed”, while “potentiality” is defined, e.g., as “2. The state or quality of possessing latent power or capacity capable of coming into being or action”.³¹ Importantly, “latent”, one of the dictionary synonyms for “potential” is itself

³⁰ New Shorter Oxford English Dictionary, p. 2310.

³¹ New Shorter Oxford English Dictionary, p. 2310.

defined as “Hidden, concealed ...; present or existing, but not manifest, exhibited, or developed.”³² In other words, a review of the dictionary meaning of the word “potential” suggests a future possibility based on some current capacity or state, not a “lack of certainty”³³ or an entirely speculative outcome.

37. This ordinary meaning of the word “potential” is confirmed by the example of a “potential direct transfer of funds” provided in Article 1.1(a)(1)(i). A “loan guarantee” is a current instrument that provides for a future transfer. It is, however, not the future transfer, but the current instrument that is the “loan guarantee”. Thus, in order to establish that a measure constitutes a potential direct transfer of funds under Article 1.1(a)(1)(i), the complaining party must demonstrate that there are certain currently defined and committed circumstances under which the recipient of the alleged financial contribution is assured a direct transfer of funds by the granting authority.

38. A speculative possibility – or as the EC describes it a “lack of certainty”³⁴ – is not enough. Indeed, the EC suggests that “lack of certainty” is the defining element. However, as the ordinary meaning of the term “potential” shows, that term does not mean “lacking certainty” or “uncertainty.” Instead, some degree of certainty – namely a potentiality – is precisely what is present in the term “potential.”

39. Moreover, the example provided for potential direct transfers in the text of Article 1.1(a)(1)(i) SCM – “loan guarantees” – shows that “potential direct transfers” are not just direct transfers that may be given in the future but are currently still “uncertain”. If they were, there would have been no reason for the example to be a different type of financial transfer (“loan guarantee”) as opposed to a transfer provided for under the first part of Article 1.1(a)(1)(i) (e.g., a “potential loan” or “potential grant”).

40. Review of Article 10.4.1 of the Master Site Agreement (“MSA”) underscores the distinction between measures that provide some sort of current guarantee or instrument constituting a financial contribution, and measures that are simply speculative, possible future financial contributions. As the United States has set forth in previous submissions, the “Make Whole” provision does not provide Boeing with a guarantee to any kind of payment or transfer of funds.³⁵ Rather, the provision contemplates that circumstances may arise that prevent the Public Parties from following through on commitments in the MSA as written. In such an event, the Public Parties have made a commitment that they will undertake best efforts to provide Boeing with an alternative to the extent such an alternative is permitted by law. Moreover, the “permitted by law” criterion means that the Public Parties are not obligated to take action – such

³² New Shorter Oxford English Dictionary, p. 1538.

³³ EC Comments on US RPQ1, para. 147.

³⁴ EC Comments on US RPQ1, para. 147.

³⁵ US FWS, paras. 586-588; US RPQ1, paras. 114-121.

as the payment of funds – that would require action by the Washington State legislature, which was not a party to the Agreement. Thus, the commitment to exercise “best efforts” was an entirely speculative exercise because the Public Parties were limited by both the State’s Constitution and laws.

41. Even in the case that the Public Parties fail to follow through on one of the commitments in the MSA or provide an alternative, there would be no guarantee or present obligation for the public authorities to provide any kind of direct transfer of funds. Boeing could attempt to bring a civil cause of action against the Public Parties and seek a remedy in court. The result of such an action would be wholly indeterminate. Significantly, the EC itself admits that “*one of the remedies that Boeing may receive in the event of a breach of the guarantee is a direct transfer of funds equal to the value of the obligation or commitment that had been lessened or removed.*”³⁶ Even the EC acknowledges that such a transfer will not necessarily follow and that no current guarantee or provision of any kind was given.

42. In addition, the EC’s comparison to a loan guarantee is without merit. A loan guarantee typically sets forth certain defined contingencies and provides that in the event that one of those contingencies arises, the guarantor is required to transfer funds to the recipient of the loan guarantee. The guarantor’s commitment to transfer funds if the defined contingencies arise provides the recipient with current assurances of receiving the funds.

43. The U.S. reading of the concept of “potential direct transfer of funds” and its application to the facts at issue here is also confirmed by a review of past panel and Appellate Body reports, and indeed, by the EC’s own arguments elsewhere. Thus, for example, in *EC – DRAMS*, the EC had found in its countervailing duty determination that the loan guarantee at issue constituted a potential direct transfer of funds.³⁷ There, Hynix, the Korean exporter, was provided increased export credit by several banks for D/As (documents against acceptance) up to a certain amount. The Korea Export Insurance Corporation (“KEIC”), which provides export insurance and guarantees to manage the risk associated with overseas transactions, granted short-term export credit insurance for the increased export credit.³⁸ The KEIC insurance covers the amounts due to the banks from Hynix that cannot be collected due to bankruptcy of either the exporter or the importer. The EC found that this constituted a potential direct transfer of funds because “the GOK effectively underwrote the risk of failure of payment by Hynix without asking for any compensation for it.”³⁹ There was, in other words, a present financial contribution in the form of a loan guarantee.

³⁶ EC Comments on US RPQ1, para. 147 (emphases added).

³⁷ *EC – DRAMS*, para. 7.86.

³⁸ The panel also agreed with the EC that the KEIC was operating at the direction of the Government of Korea such that the provision of the loan guarantee was an act by the Government, rather than a private corporation.

³⁹ *EC – DRAMS*, para. 7.86.

44. No such commitment exists in the case of the “Make Whole” provision of the MSA. There are no defined circumstances under which Boeing is assured anything, let alone a direct transfer of funds, nor is there any kind of other guarantee that it will receive such funds.

45. Indeed, it is illustrative to compare the MSA provision challenged by the EC with the EC’s own reasoning as to why it considered a guarantee provided by Korean KEXIM in the *Korea – Vessels* dispute a potential direct transfer. There, the EC noted:

"In KEXIM’s own words, the APRGs “provides a foreign importer with a 100% guarantee that a Korean exporter will perform as contracted. Thus, KEXIM provides, through the APRG programme, a financial contribution in the form of a “potential direct transfer of funds” pursuant to Article 1.1(a)(1)(i) of the *SCM Agreement*.””⁴⁰

46. Nothing even remotely like such a “100% guarantee” is provided in the MSA and no current financial contribution is provided. Instead, all that exists is uncertainty or, at most, a future measure not yet constituting a financial contribution of any sort.

(c) *"government revenue that is otherwise due is foregone or not collected"*

125. *The United States argues that the scope of Article 1.1(a)(1)(ii) is limited to revenue that was foregone in the past, and that revenue a government may potentially forego in the future does not constitute a financial contribution under Article 1(a)(1)(ii). (e.g. US FWS, para. 462)*

(a) *Please respond to paras. 44-48 of the EC SWS, where the European Communities submits that this argument is erroneous because it relies on a provision of the SCM Agreement that does not address the issue of subsidy "amount."*

(b) *Please respond to the European Communities' argument, at paras. 50-53 of its SWS, that tax revenue to be foregone in the future constitutes a financial contribution within the meaning of Article 1.1(a)(1)(ii) so long as the right or entitlement exists today.*

47. In response to part (a) of the Panel’s question, it is correct that Article 1.1(a)(1)(ii) of the SCM Agreement does not address the issue of subsidy amount. However, the United States bases its argument regarding future revenue foregone on the ordinary meaning of the terms in Article 1.1, which sets forth what constitutes a financial contribution.⁴¹ In the U.S. view, revenue that may be foregone in the future does not fall within the definition of a financial

⁴⁰ *Korea – Vessels*, EC FWS, para. 143.

⁴¹ EC RPQ1, para. 80; US FWS, paras. 462-466.

contribution under Article 1.1 of the SCM Agreement.⁴² Whether a measure results in a financial contribution is one of the elements in the analysis of whether there is a subsidy and the amount of the subsidy. Because possible future revenue foregone cannot be considered a financial contribution, it cannot be considered a subsidy or be included in the subsidy amount.

48. With respect to part (b) of the Panel's question, the EC's argument is unavailing. Since it is entirely speculative what Boeing's tax liability will be in the future and therefore what, if any, revenue will be foregone, Boeing's future right or entitlement under the relevant tax measures is also speculative.

49. As the United States set forth in its FWS, Article 1.1(a)(1)(ii) only provides that revenue that has been foregone is within the definition of a financial contribution.⁴³ Accordingly, future revenue foregone is not included within the definition of a financial contribution regardless of whether there is an existing right or entitlement.

50. Moreover, and with regard to both sub-questions (a) and (b) above, as discussed in the U.S. Response to Question 111 above, the EC has made an "as applied" claim of violation of the SCM Agreement. Even if a financial contribution could be considered to exist based on the mandatory nature of the foregoing of revenue, whether a tax measure has actually been applied – i.e., whether revenue has actually been foregone (or will be foregone) – is relevant in assessing whether there has been adverse effects – a necessary element of the EC's claim.

126. *At para. 80 of US RPQ1, the United States acknowledges that "measures mandating the foregoing of revenue that is otherwise due can be challenged as such in WTO dispute settlement proceedings." The United States adds, however, that "it is important to consider whether that measure has resulted in revenue foregone. In other words, no financial contribution exists under Article 1.1(a)(1)(ii) unless the government has foregone revenue." Could a measure that mandated the foregoing of government revenue that is otherwise due, but which had not yet been applied, be successfully challenged in WTO dispute settlement proceedings? If so, how can this be reconciled with the United States argument that there is no financial contribution within the meaning of Article 1.1(a)(1)(ii) unless and until revenue has actually been foregone, i.e. in the past?*

51. A measure mandating the foregoing of government revenue that is otherwise due, but which has not yet been applied, could be successfully challenged in WTO dispute settlement proceedings for example where it involves a prohibited export subsidy. However, as discussed in the US Response to Question 111, above, the EC has not made an "as such" claim under Part III of the SCM Agreement. Therefore, in addition to showing the existence of a subsidy, the EC

⁴² As set forth in response to Question 111 of the US RPQ1, the United States recognizes that a measure that mandates the provision of a subsidy in violation of the SCM Agreement can be challenged "as such" in WTO dispute settlement proceedings.

⁴³ US FWS, paras. 462-466.

would still have to show the actual existence of adverse effects. Even if a financial contribution could be considered to exist based on the mandatory nature of the foregoing of revenue, whether a tax measure has actually been applied – *i.e.*, whether revenue has actually been foregone (or will be foregone) – is relevant in assessing whether there has been an “as applied” breach – a necessary element of the EC’s claim.

(d) *"a government provides goods or services"*

127. *At para. 331 of its FWS, the United States indicates that it does not accept that the "provision of patent rights can be considered a provision of "goods"”. Without prejudice to the US argument that the intellectual property rights at issue were retained by Boeing/MD, as opposed to being "transferred/waived" to Boeing/MD by NASA/DOD:*

(a) *What is the legal basis for the proposition that the provision of "patent rights" cannot be considered the provision of "goods" within the meaning of Article 1.1(a)(1)(iii)?*

52. This response applies to both this question and Question 193.

53. The provision of “goods” under Article 1.1(a)(1)(iii) is the conveyance of tangible goods or ownership rights in tangible goods by the government to a private party. A patent is neither a tangible good nor an ownership right in a tangible good. Therefore, the provision of patent rights cannot be considered a provision of goods.

54. In *US – Softwood Lumber CVD Final (AB)*, the Appellate Body found that:

The ordinary meanings of the { } terms {goods, *biens*, and *bienes*} include a wide range of property, including immovable property. As such, they correspond more closely to a broad definition of “goods” that includes “property or possessions” generally, than with the more limited definition adopted by the Panel. . . . With this in mind, we find that the ordinary meaning of the term “goods” in the English version of Article 1.1(a)(1)(iii) of the *SCM Agreement* should not be read so as to exclude tangible items of property, like trees, that are severable from land.⁴⁴

Thus, the Appellate Body found that “goods” extends to “tangible items – such as standing, unfelled trees, even if they are not both tradable as such and subject to tariff classification.”⁴⁵

55. However, the Appellate Body was not asked to lay out the boundaries of the reach of the term “provision of goods” under Article 1.1(a)(1). The remainder of that provision indicates the types of transactions that are not “provision of goods” – conveyance of money or financial assets

⁴⁴ *US – Softwood Lumber CVD Final (AB)*, para. 59.

⁴⁵ *US – Softwood Lumber CVD Final (AB)*, para. 67.

(like loans and equity infusions) under Article 1.1(a)(1)(i); rights to tax treatment under Article 1.1(a)(1)(ii); and rights to indirect funding under Article 1.1(a)(1)(iv). Treating “provision of goods” as excluding these transactions is necessary because a reading of “goods” to encompass any sort of “property or possession” whatsoever would render inutile clauses (i), (ii), and (iv) of Article 1.1(a)(1). Such an outcome would be inconsistent with the principle of effectiveness in treaty interpretation.⁴⁶

56. Therefore, patents do not fall within this scope of Article 1.1(a)(1)(iii). They convey no ownership rights in a tangible item. Their defining characteristic is that they give the holder the exclusive right to prevent third parties from “making, using, offering for sale, selling or importing for these purposes that product.”⁴⁷ They do not confer any affirmative right on the patentholder to make, use, offer for sale, sell, or import an invention.⁴⁸ Finally, the United States notes that many patents do not even pertain to patents that are “products,” but rather to inventions that are processes.⁴⁹ Therefore, patents are not a good for purposes of Article 1.1(a)(1)(iii).

(b) *Assuming for the sake of argument that patent rights can be considered “goods” within the meaning of Article 1.1(a)(1)(iii), does the United States accept that, if a Member did “waive/transfer” patent rights to a recipient in the manner alleged by the European Communities, this would constitute the “provision” of goods for the purpose of Article 1.1(a)(1)(iii)?*

57. No, the waiver/transfers alleged by the EC would not constitute a “provision” of goods for purposes of Article 1.1(a)(1)(iii) because they are part of a larger transaction, and not separate transactions by themselves. Moreover, they do not actually waive or transfer patent rights – they attribute to the parties rights that *may* arise if the contractor makes a patentable invention during the course of its work under the contract.

58. The attribution of patent rights under U.S. government contracts is not a discrete transaction. Instead, it is merely one of the terms of a larger transaction involving the government purchase of a service, usually R&D services. There is no separate price, no separate

⁴⁶ *US – Gasoline (AB)*, p. 23.

⁴⁷ *Agreement on Trade-Related Aspects of Intellectual Property Rights*, Art. 28(a).

⁴⁸ U.S. Patent and Trademark Office, “Nature of Patent and Patent Rights,” in *General Information Concerning Patents* (Exhibit US-1300). To use an example, a manufacturer may license a patent from the patent owner, and then incorporate the patented invention in its finished good. When the manufacturer makes the finished good, it owns that good, as does anyone to whom the manufacturer sells the good. All the while, the patent holder continues to hold rights to the invention, but that does not affect ownership of the good in any way.

⁴⁹ *Agreement on Trade-Related Aspects of Intellectual Property Rights*, Art. 27.1.

payment, no discrete exchange. The division of patent rights between the parties is simply one of many elements that they take away from the larger transaction.⁵⁰

59. The Panel should also note that the EC's depiction of the patentability of inventions made under NASA and DoD contracts is inaccurate. Neither DoD nor NASA transfers or waives "patents." The relevant regulations simply ascribe to the parties to a government contract certain rights with regards to patents that may be filed with regard to inventions that may be made under those contracts. (In fact, many of the research projects conducted under RDT&E contracts do not result in any patentable inventions.) Even if the contractor does make an invention, it is not required to file a patent with regard to such inventions. If it does not, NASA or DoD may do so. If neither the government nor the contractor files for a patent, the invention still exists, but neither has any patent rights with regard to it.

60. There are, however, hypothetical situations in which the result would be different. For example, if one were to assume that patent rights are goods, and a Member simply transferred its own rights in an existing patent to an enterprise, outside of any other transaction, there would be a provision of a good.

(c) *Is the implication of the United States' interpretation of Article 1.1(a)(1)(iii) that if a Member transferred valuable patent rights to a company for nothing in return, this would involve no financial contribution under Article 1?*

61. No. The U.S. analysis addresses only the applicability of Article 1.1(a)(1)(iii) to patent rights, and does not preclude the conclusion that a transfer of valuable patent rights is a financial contribution under another clause of Article 1.1(a)(1). For example, in the market, ownership of a valuable patent right allows an owner to collect licensing fees for use of the patented invention by others. If the government held a patent, and gave up that right by transferring the patent to a company, there would likely be a foregoing of revenue otherwise due within the meaning of Article 1.1(a)(1)(ii). The United States notes that this hypothetical does not describe the situation with regard to the patent attribution clauses in U.S. government contracts. In the first place, ownership rights to a patent initially reside in the inventor or the inventor's employer. Therefore, the division of rights in a government contract involves a transfer from the inventor (or the inventor's employer) to the government. In addition, the patent attribution clauses are integral parts of a larger transaction, so they cannot be stripped out of that transaction and be described as provided "for free."

(e) *"other than general infrastructure"*

128. *At para. 99 of the US RPQ1, the United States argues that the Panel must determine whether the particular improvement is "universally available". The United States further*

⁵⁰ The U.S. response to Question 136 explains that, in this situation, clauses attributing patent rights are one factor in the evaluation of whether the transaction as a whole confers a benefit.

argues, at para. 105 of US RPQ1, that Article 1.1 does not ask whether the infrastructure was "motivated by a particular goal", and that the determining factor is whether the infrastructure is "universally available". Does the concept of "universal availability" refer only to de jure availability, or would it also entail de facto availability? In determining whether infrastructure is "universally available", what is the relevance of whether or not:

- (a) the infrastructure or improvements were made according to the specifications of one particular company;*
- (b) a given "user" or "users", absent government provision of infrastructure at issue, would have had to undertake the project at their own cost?*

62. A government provision of goods or services “other than general infrastructure” constitutes a financial contribution within the meaning of Article 1.1(a)(1)(iii). As the United States has set out in response to Question 35 and its FWS, the ordinary meaning of “general infrastructure” refers to installations and services that are available to all or nearly all inhabitants or users of a relevant area.⁵¹ Accordingly, as the United States has set forth in previous submissions, whether particular infrastructure constitutes “general infrastructure” depends on whether the infrastructure is available to all or nearly all inhabitants or users in a relevant area, and this determination must be based on the totality of the facts surrounding the provision of the particular infrastructure.⁵² As this inquiry is necessarily fact-intensive, both *de jure* and *de facto* limitations on availability are relevant to the Panel’s analysis. In this context, the relevance of either of the two factors referred to by the Panel under (a) and (b) depends on the extent to which such factors can provide insight into whether the infrastructure at issue is available to all or nearly all inhabitants or users of the relevant area.

63. With respect to part (a) of Panel question 128, the fact that infrastructure or an improvement was made according to the specifications of one particular company may be relevant to the Panel’s general infrastructure analysis. However, it is important to distinguish between two types of situations.

64. The first situation is where a government, in developing, designing, and constructing infrastructure takes into account through consultation or other forms of information gathering, the interests and needs of those companies or individuals who use or are expected to use the infrastructure. This can range from the needs of pedestrians for sidewalks (e.g., the sidewalk should be broad enough, have traffic lights in the right places and be on one or both sides of the street, a highway should be wide enough for expected traffic), to that of large industrial users or industries that the government knows or anticipates will be using the infrastructure. For example, a port will have to be deep enough for the ships that use it; a railroad’s tracks need to

⁵¹ US FWS, para. 46; US RPQ1, para. 91.

⁵² U.S. Comments on EC RPQ1, paras. 119, 123.

fit the trains using it. Governments will also take into account more local concerns and requirements. Thus, for example, in improving its transportation system, a government may take into account the current or future presence of large companies, universities, or other organizations. This might require additional lanes, particular exit ramps, more bus stops or carpool facilities, or expanded railroad facilities. The requirements may vary according to the type of organization or operations expected and the traffic it will create. This type of “taking into account” is a normal planning function and would not normally, in itself, result in *de jure* or *de facto* limitations on availability of the infrastructure.

65. The second group of situations includes those where the infrastructure is truly tailor-made to the needs and specifications of a particular company or sector in a way that effectively excludes others from using the infrastructure. In such a situation, the infrastructure would be “non-general” because the “tailor-making” has resulted in *de jure* or *de facto* limitations on the availability of the infrastructure. Thus, while constructing infrastructure in a way that is tailor-made to the specifications of one company may likely be an indicator of non-generality, consulting with and taking into account the specifications of a particular company does not necessarily make infrastructure “non-general.”

66. In arguing that the road improvements to I-5 and SR-527, the construction of the rail-barge transfer facility, and the South Terminal expansion are “non-general”, the EC relies heavily on the argument that such infrastructural improvements were made according to Boeing’s specifications.⁵³ But the facts show that while the public authorities took into account the needs of Boeing and many other users of the infrastructure, there were no limitations on the availability of any of the infrastructure, including the particular improvements challenged by the EC. Put differently, the “taking into account” falls into the first category described above, rather than the second and therefore does not result in a finding of “non-generality” within the meaning of Article 1.1(a)(1)(iii) SCM Agreement.

67. First, the United States has demonstrated that each of the infrastructure measures challenged by the EC is public infrastructure, with no limitations on availability. In the case of the I-5 and SR-527, these roads are public roads that any vehicle may access. Specifically, I-5 (short for “Interstate 5”) is part of the U.S. Interstate Highway System and is the major north-south highway on the West Coast of the United States, running from Canada to Mexico. As such, it is used by countless businesses, tourists and citizens. SR-527 – a state highway – is a “principal arterial highway” used by both residents and businesses in Washington State.⁵⁴ There are no limitations on the availability of these roads.

68. With respect to the South Terminal Expansion, the United States has demonstrated that no work has been done to expand the South Terminal. However, even if this work were undertaken, it would not result in any limitations on the availability of the infrastructure. The

⁵³ EC SWS, paras. 130, 140.

⁵⁴ SR 527 Route Development Plan, p. 3 (Exhibit US-208).

Port of Everett originally contemplated an expansion of the South Terminal to address the significant increase in traffic volume in recent years. Through its larger capacity, the expanded South Terminal would be available to even more users than it currently is.

69. The rail barge transfer facility is part of the rail line system (the BNSF freight railroad mainline) that runs between Seattle and Chicago. In 2004, 44 trains per day (including commuter and freight trains) used the corridor. This number is projected to increase to 64 trains by 2010. The rail barge transfer facility serves to alleviate congestion that has become a growing problem on the rail line.⁵⁵ There are no limitations on the availability of either the rail barge transfer facility, or the BNSF freight railroad mainline in general and, indeed, the EC has not provided any evidence of any such limitations. Its entire argument is based on the proposition that the rail barge will benefit Boeing, a suggestion that the EC seems to base solely on the reference to the facility in the Master Site Agreement alone.

70. Second, the EC does not engage in any meaningful fact-specific analysis. Instead, the EC relies entirely on a single provision of the Master Site Agreement that it argues would require the State and the other Public Parties to take into account Boeing's specifications, and Boeing's only. Indeed, it alleges, "one company – Boeing – was singled out and given the sole right to define specifications with which the public authorities must comply."⁵⁶ The EC provides no evidence for this assertion.

71. Furthermore, in the same passage, the EC itself acknowledges that "{i}f the other industrial users that operate in the area could also contribute to the standard setting for the improvement, the situation might be legally distinct, especially in a situation where the public authorities retained discretion over the extent to which such recommended standards would be applied."⁵⁷ But that is precisely the situation here. Other users (industrial and non-industrial) did contribute to the "standard setting" for the improvements. Thus, in developing road improvement measures, including those on the I-5 and SR-527 that the EC has challenged, the State consulted extensively with a wide variety of companies and other interested parties and took into account their requirements and needs. As set forth in Exhibit US-1296, the State conducted significant outreach with businesses and residents in Everett in connection with the I-5 road improvement.⁵⁸ Similarly, a variety of industrial users including Supervalu (a large grocery retail company), the Wheat Growers Association, UwaJimaya (a large Asian grocery chain in the Pacific Northwest area of the United States), and Innovac (a large cleaning and industrial vacuuming company) along with a Boeing representative, State and city officials,

⁵⁵ US FWS, paras. 544-545.

⁵⁶ EC Comments on US RPQ1, n. 188, referring to the Project Olympus Master Site Agreement, Article 6.11.1 (exhibit EC-58).

⁵⁷ EC Comments on US RPQ1, n. 188, referring to the Project Olympus Master Site Agreement, Article 6.11.1 (exhibit EC-58).

⁵⁸ I-5 Everett HOV Freeway Expansion Project Public Outreach Summary (Exhibit US-1296).

union leaders, and various interest groups were represented on the Blue Ribbon Commission on Transportation that prepared plans for the I-5, SR-527, and other infrastructural improvements.⁵⁹

72. In addition, the legislative history of the road improvement projects demonstrates that the I-5 and SR-527 improvement projects, like many other road improvement projects developed as part of the same package, took into account various other interests ranging from safety improvement (adding guard rails, adding lanes, reducing “weaving”), to accessibility and the environment (adding transit stops for carpools and buses to e.g., Tukwila City Hall; alleviating congestion generally; providing improved access to, e.g., the University of Washington).⁶⁰

73. Moreover, the EC’s argument continues to avoid taking into account the totality of the facts surrounding each of the measures challenged. With regard to the I-5 and SR-527 improvements, the United States has previously noted that Washington State decided to improve its road infrastructure to serve a variety of economic, safety and environmental objectives long before Boeing decided to site its 787 operations in Everett.⁶¹ They represent two sets of improvements that are part of a much larger package of infrastructure improvements engaged in by the State of Washington and the City of Everett as part of its state-wide effort to improve the transportation system.⁶² The improvements therefore are not “tailor-made” to Boeing, but rather are an integral part of a general updating of the State’s highway system. Similarly, both the consideration of a South Terminal expansion and the creation of the rail barge transfer facility were a response to general congestion problems and were not merely “tailor-made” for Boeing.⁶³

74. Finally, the United States has demonstrated that the Master Site Agreement does not provide “a legal right” that the infrastructure measures challenged by the EC will be made according to Boeing’s precise specifications.⁶⁴ The Agreement merely sets out a commitment that the public authorities implementing the infrastructure improvements will consult with Boeing in preparing drawings and specifications.⁶⁵ Indeed, the EC itself does not point to more

⁵⁹ Transportation Action: Final Recommendations to the Governor and Legislature (Dec. 2000) (Exhibit US-215).

⁶⁰ See Puget Sound HOV Pre-Design Studies: Final Report (May 5, 1997) (Exhibit US-214), p. 12 (describing how adding a transit stop on I-5 would allow buses to stop near the Tukwila City Hall Shopping Center); p. 13 (emphasizing improvements that allow for bus-stops and carpools to be added); p. 17 (referring to the need for a new ramp to add access points for buses and carpools headed to the University of Washington); “Nickel Package Funding” For Transportation Enacted by the Washington State Legislature (Exhibit US-218), pp. 2-3 (describing the need to improve safety by reducing “weaving” and to alleviate congestion). See also, US FWS paras. 531-533.

⁶¹ US FWS, paras. 525-528; US RPQ1, para. 106.

⁶² Legislative 2003 Transportation Project List – New Law (April 27, 2003) (Exhibit US-221).

⁶³ US FWS, para 550; US FWS, paras. 544-545.

⁶⁴ US FWS, paras. 524-528.

⁶⁵ Master Site Agreement, Arts. 6.11.1; 6.12.1; 6.13.1. Moreover, as the United States has explained in response to the EC’s arguments concerning the “Make Whole” provision of the Master Site Agreement, the Agreement does not confer a “guarantee” that the improvements mentioned in the Agreement will be implemented

than sentences such as “{t}he Port of Everett shall consult regularly with Boeing on the design, development and construction of the rail to dock facility”⁶⁶ and “shall consult regularly with Boeing on the design, development and construction of the South Terminal.”⁶⁷ Such obligations to “consult,” however, in no way placed *de jure* or *de facto* limits on the availability of the infrastructure. In fact, they fail to meet the EC’s own suggested standard of “singl{ing} out” a particular company “and giv{ing it} the sole right to define specifications”.⁶⁸

75. In sum, tailor-made infrastructure in the sense of improvements meeting the needs of just one entity can fall outside the category of general infrastructure. But, the EC has not shown that any of the challenged measures is tailor-made, and indeed none of them are tailor-made. Instead, the EC merely repeats a mantra that the measures it challenges are “non-general”, relying on nothing more than a commitment by Washington State and the other Public Parties to consult with Boeing and to take into account its requirements, just as they do with respect to many other users. The EC then mischaracterizes this commitment to consult as an exclusive legal right for Boeing to have the infrastructure made to its specifications. However, this leap in the EC’s reasoning is unavailing. None of the EC’s assertions changes the fact that the challenged infrastructure measures are general infrastructure within the meaning of Article 1.1(a)(1)(iii) SCM Agreement and therefore do not result in a financial contribution to Boeing.

76. With respect to part (b) of the Panel’s question, whether a given “user” or “users” would have had to undertake the project at their own cost absent government provision of infrastructure is irrelevant for the determination whether such infrastructure is universally available.⁶⁹ Most businesses and residents require infrastructure so that, at some level, any price of infrastructure would have to be funded by its private users in the absence of government funding. Thus, this type of but for analysis does not provide a meaningful dividing line, as it would tend to define all or almost all infrastructure as non-general.

77. In any event, the issue has no relevance here because Boeing would not have had to undertake the challenged infrastructure improvements at all. The reason for the Port of Everett to construct the rail barge transfer facility was to avoid having to shut down the main rail line for

and that all of the commitments set forth in the Agreement will be met. Rather, the Agreement sets out a number of “best effort” obligations for Washington State and the other Public Parties to the Agreement to fulfill certain commitments under the Agreement, including the commitment to provide certain infrastructural improvements that are an important factor in Boeing’s decision to site its new 787 facilities in Washington State. US FWS, para. 586-588.

⁶⁶ EC SWS para. 177, citing the Master Site Agreement.

⁶⁷ EC SWS, para. 188, citing the Master Site Agreement.

⁶⁸ See above at para. 73; and EC Comments on US RPQ1, n. 188.

⁶⁹ The question of a comparison between a situation where the government provides infrastructure and a company having to build the infrastructure on its own could come up in the context of the “benefit” analysis under Article 1.1(b) of the SCM Agreement. There, such a comparison may be needed to establish the benefit conferred.

between one and two hours every time it needed to transfer cargo from large rail barges.⁷⁰ This improvement was, however, in no way necessary for Boeing. Boeing's needs were already met by the existing situation – it could transfer oversized containers onto rail barges at the Port's Marine Terminal and could transport them from there to its facility. It was the other users who experienced most of the hindrance and for whom a solution needed to be found. Moreover, even though the transfer facility now exists, Boeing is not actually using it because its parts shipments are largely done by airplane. The situation is similar for the South Terminal expansion. Boeing has shifted to air shipments⁷¹ and therefore would not need to undertake expansion of the South Terminal if the Port does not. Indeed, as the United States has previously explained, at the moment, even the Port of Everett itself has not moved forward with the expansion of the South Terminal facility.⁷²

(f) *"a government ... entrusts or directs a private a body"*

130. *Please identify applicable US laws and regulations governing the use of sub-contracts, and in particular those aspects of the applicable laws and regulations that are germane to the question of whether any funding provided to Boeing/MD in its capacity as a sub-contractor would fall within the scope of Article 1.1(a)(1)(iv).*

78. DoD or NASA has a contractual relationship only with its prime contractor. There is no privity of contract between the contracting agency and subcontractors working under a DoD or NASA prime contract. Both agencies enter into contracts with the expectation that the prime contractor will manage the entire effort, including subcontractor effort, necessary for the prime contractor to fulfill the terms and conditions of the prime contract. This principle extends to the system for reviewing disputes between the government and its contractors, which is governed by a standard "Disputes" clause.⁷³ In the event of a contractual dispute, a subcontractor may not use any clause in its (sub)contract with the prime contractor to attempt to obligate any of the authorities responsible for administering the "Disputes" clause to decide questions that do not arise between the government and the prime contractor or that are not cognizable under that clause.⁷⁴

79. Rules regarding DoD or NASA subcontracts are located in 48 CFR Part 44, which contains rules applicable to all government contracts. Additional and supplemental rules applicable only to DoD contracts appear in 48 CFR Part 244. The general rules address two functions that DoD and NASA contracting officers perform that relate to subcontracts: "consent

⁷⁰ US RPQ1, para. 102; US FWS, para. 545.

⁷¹ US FWS, para. 550.

⁷² US FWS, para. 551.

⁷³ 48 C.F.R. § 52.233-1 (Exhibit EC-1285).

⁷⁴ 48 C.F.R. § 44.203(c) (Exhibit EC-1285).

to subcontracts”⁷⁵ and review and approval of a (prime) contractor's purchasing system.⁷⁶ Neither of these functions creates a contractual relationship between the contracting agency and any subcontractor. The contracting officer's consent to a subcontract or approval of the contractor's purchasing system does not constitute a determination of the acceptability of the subcontract terms or price, or of the allowability of costs, unless the consent or approval specifies otherwise.⁷⁷ Neither function creates a relationship in which the contracting officer makes payments to, or directs the prime contractor to make payments to, individual subcontractors. In other words, the contracting officer does not appoint or designate subcontractors, or tell the prime contractor how to apportion work among its subcontractors. It has only the right to reject a prime contractor's choice of a subcontractor in certain limited circumstances.⁷⁸ Those circumstances become even more limited when the prime contractor has an approved purchasing system, as Boeing does. In that case, agency consent to a subcontract is required only if the contracting officer determines that consent is required “to protect the Government adequately because of the subcontract type, complexity, or value, or because the subcontract needs special surveillance.”⁷⁹

80. Since the contractor is responsible for managing any subcontractor effort without instruction from the contracting agency, there is no entrustment or direction for purposes of Article 1.1(a)(1)(iv). In addition, a contractor's practice with regard to subcontractors also differs markedly from the practices normally followed by the government, in that it does not have to follow the Federal Acquisition Regulations in its contracts with subcontractors unless a regulation specifically provides otherwise.⁸⁰ These differences provide yet another reason why subcontracts under DoD or NASA contracts do not fall within the scope of Article 1.1(a)(1)(iv).

81. The United States also draws the Panel's attention to paragraphs 27 through 32 of the U.S. Comments on EC RPQ1, which discuss subcontracting rules in detail.

131. *Please identify any terms/elements of the NASA/DOD R&D contracts at issue that are germane to the question of whether any funding provided to Boeing/MD in its capacity as a sub-contractor would fall within the scope of Article 1.1(a)(1)(iv).*

⁷⁵ 48 C.F.R. Subpart 44.2 (Exhibit EC-1285).

⁷⁶ 48 C.F.R. Subpart 44.3 (Exhibit EC-1285).

⁷⁷ 48 C.F.R. § 44.203(a) (Exhibit EC-1285) and 48 C.F.R. § 52.244-2(f) (Exhibit US-1265).

⁷⁸ 48 C.F.R. §§ 44.202-1, 44.202-2, and 44.203 (Exhibit EC-1285).

⁷⁹ 48 C.F.R. § 44.201-1 (Exhibit EC-1285). Subcontracts needing special surveillance “can be subcontracts for critical systems, subsystems, components, or services.” *Ibid.*

⁸⁰ Some standard FAR and DFAR contract clauses have “flowdown” requirements mandating that the prime contractor include a specific requirement in some or all subcontracts. Examples include the clauses at 48 C.F.R. § 52.203-6 (Restrictions on Subcontractor Sales to the Government); and 48 C.F.R. 52.203-7 (Anti-Kickback Procedures); and 48 CFR 52.228-5 (Insurance – Work on a Government Installation). These clauses will often serve to foster competition and protect the government's rights.

82. The Federal Acquisition Regulation requires contracting officers to use standard clauses regarding payments in fixed price contracts,⁸¹ in fixed-price R&D contracts,⁸² and in cost-reimbursement type contracts.⁸³ These clauses, regardless of contract type, address payments by the government to the prime contractor, not to subcontractors. Payments under fixed-price contracts are made for supplies delivered and accepted, services rendered and accepted, or work delivered or rendered and accepted. Payments under cost-reimbursement contracts are made to the prime contractor as work progresses, in amounts determined to be allowable by the Contracting Officer in accordance with 48 CFR Subpart 31.2 and the terms of the contract. These regulations require only payment to the contractor, and do not apply to any subsequent payment from the contractor to the subcontractor. (Indeed, the contractor may pay the subcontractor before it ever receives payment from the government.) Thus, any payment that Boeing receives as a subcontractor is governed by the terms of its contract with the prime contractor. There is no payment to a funding mechanism for purposes of Article 1.1(a)(1)(iv).⁸⁴

2. Benefit

135. *Are the parties in agreement that "benefit must be assessed at the time the transaction at issue takes place"? (EC SWS, para. 323; US FWS, para. 331) Please discuss the implications of the idea that benefit must be assessed at the time a transaction takes place for the Panel's analysis of whether NASA and DOD R&D measures challenged by the European Communities give rise to a "benefit" within the meaning of Article 1.1(b).*

83. The United States agrees that the question of whether a benefit exists with respect to a particular financial contribution must be assessed based on conditions as of the time of the financial contribution. As the panel stated in *Korea – Commercial Vessels*:

we consider that the terms of the debt-for-equity swap should not be analysed *ex post*, on the basis of the price at which DSME's shares were publicly traded, or the price offered by potential buyers of DSME. Instead, the terms of the debt-for-equity swap should be assessed in light of the facts before creditors at the time they decided upon them.⁸⁵

The same principle holds true for evaluation of the NASA and DoD R&D measures challenged by the EC. The Panel should base its analysis of whether the R&D transactions were on terms better than those available in the market on the facts before the parties and the terms available to

⁸¹ 48 C.F.R. § 52.232-1 (Exhibit US-1266).

⁸² 48 C.F.R. § 52.232-2 (Exhibit US-1266).

⁸³ 48 C.F.R. § 52.216-7 (Exhibit US-27).

⁸⁴ NASA and DoD do not maintain records of subcontracts awarded to Boeing, and have no facts to report with respect to the substance of the clauses in particular subcontracts.

⁸⁵ *Korea – Commercial Vessels*, para. 7.491.

them at the time of the transaction. Thus, the actual value of the results of any research conducted under a R&D contract, which the parties could not know at the time they entered into the contract, would play no role in determining whether a benefit exists.⁸⁶

84. For example, if the government paid \$1 million for R&D services worth \$1 million at the time of the contract, there would be no benefit.⁸⁷ That conclusion would not change regardless of subsequent developments, including the realized market value of any patents issued on inventions actually resulting from the R&D project.

136. *In Question 21, the Panel asked the parties whether there exists a market benchmark against which the terms of any financial contributions provided to Boeing/MD under NASA/DOD R&D programs could be compared for the purpose of determining whether those financial contributions conferred a "benefit" within the meaning of Article 1.1(b). The European Communities responded that "the relevant market benchmark would be the terms of a commercial transaction in which one entity pays another entity to conduct R&D." (EC RPQ1, para. 76) In its Comments, the United States does not appear to disagree with the proposition that "the relevant market benchmark would be the terms of a commercial transaction in which one entity pays another entity to conduct R&D." (US Comments on EC RPQ1, paras. 78ff)*

(a) *Is the Panel correct in its understanding that the United States accepts that that "the relevant market benchmark would be the terms of a commercial transaction in which one entity pays another entity to conduct R&D", and that the point of disagreement between the parties concerns the application of this benchmark to the facts, as opposed this benchmark itself?*

85. The Panel's understanding is correct. If it should find that NASA or DoD contracts for R&D services were a financial contribution, the proper benchmark to evaluate benefit is a commercial transaction in which one entity pays another to conduct R&D. However, the United States disagrees with how the EC applies this benchmark.

86. The responses to the sub-questions below address many of these concerns. However, the United States wishes to emphasize two critical points. The EC has only attempted to present benchmark evidence for one piece of the transaction, namely, the attribution of rights with regard to patents made by the contractor during performance of a government contract. It has never actually addressed the benchmark described in the Panel's question – the overall terms of a

⁸⁶ This discussion relates to the analysis of the benefit under Article 2.1. Analysis of the "effect" of any subsidy under Article 6.3 may involve a consideration of what actually occurred after the transaction. For example, a research project may make no difference in the parties' relative technological position if its results are made widely available, or if the private party would have conducted the research anyway.

⁸⁷ In fact, the initial transaction value would incorporate the value of the possibility of a patentable invention, so to then count the invention as an additional benefit would be double counting.

commercial transaction in which one entity pays another entity to conduct R&D. Otherwise, the EC has simply asserted, with no support, that commercial entities would not pay anything for the R&D services purchased by NASA or the civil “portion” of the R&D services purchased by DoD, and would not have allowed a supplier to charge a price that covered the cost of overheads like IR&D and B&P.

87. The first critical point is that the EC’s argument asks the Panel to take the transactions apart and look at particular elements – such as treatment of rights to patent or IR&D/B&P reimbursements – in isolation. In any negotiation, including a commercial transaction, the parties typically make concessions to each other, with the seller giving the buyer a better deal on one aspect of the transaction in exchange for the buyer’s concession on another. An examination of whether one element of a transaction offers more favorable terms than are “typically” available in the market is irrelevant, as it does not address whether a commercial actor seeking such terms could gain them on the market in a package with other concessions. Thus, a panel can only perform an objective analysis of a potential benefit if it considers the transaction as a whole.

88. In fact, this is the approach that the panel in *Korea – Commercial Vessels* took in evaluating complex restructuring packages. It did not take individual terms of each package in isolation. Rather,

{o}ur approach to the issue of benefit in the context of the restructurings is to ask whether the EC has demonstrated that each of the restructurings was commercially unreasonable. In this context, the parties have advanced general horizontal arguments as to the participation of domestic versus foreign creditors in the restructurings, as well as company-specific arguments as to the decisions to restructure each of the companies and as to the terms of the restructurings as implemented. We consider all of this evidence in its totality in respect of each restructuring, taking up first the general, horizontal question of the creditors’ participation, followed by the company specific arguments and evidence pertaining to the individual restructurings.⁸⁸

The United States also notes that the Appellate Body, when faced in *EC – Asbestos* with a complex measure consisting of broad restrictions and limited exceptions, concluded that the measure “is to be examined as an integrated whole, taking into account, as appropriate, the prohibitive and the permissive elements that are part of it.”⁸⁹

89. This is exactly what the EC has failed to do in this proceeding. It has not addressed the “evidence in its totality,” but has instead sought to challenge particular clauses or elements of

⁸⁸ *Korea – Commercial Vessels*, para. 7.428.

⁸⁹ *EC – Asbestos (AB)*, para. 64.

transactions, without regard for their place in the transaction. It is this effort to disaggregate transactions without addressing the balance between the parties that is “absurd.”

90. The second critical point is that the EC’s benchmark evidence with regard to the attribution of patent rights under government contracts is that it fails to demonstrate a market benchmark responsive to the question of whether U.S. government practice provides terms more favorable than are available in the market. It relies on one transaction and some generic statements from an Airbus employee regarding Airbus’ patent attribution practices to make a generalized statement about market practices of all enterprises *in the United States*. The Appellate Body rejected such an approach in the Article 21.5 report in *Brazil – Aircraft*:

73. With regard to the first example – the guarantee contract concluded with the Export-Import Bank of the United States – we note that Brazil has presented evidence relating to one actual export credit transaction of this kind. On the basis of this single transaction, Brazil attempted to establish a generalized “market benchmark”, applicable to all export credit transactions, this benchmark being the 10-year United States Treasury Bond rate plus 20 basis points. We note that the terms and conditions of export credit transactions in the marketplace vary considerably, depending on the circumstances of a particular export credit transaction, such as the product involved, the size or volume of the transaction, the type of export credit practice, the duration of the repayment term, the type of interest rate (fixed or floating) used, and when the transaction is concluded. In our view, Brazil has not demonstrated that the evidence it submitted, relating to a single Export-Import Bank export credit transaction, is sufficient, on its own, to justify the generalized “market benchmark” relied on by Brazil in all transactions relating to regional aircraft under the revised PROEX.⁹⁰

The two documents submitted by the EC suffer the same problem that the Appellate Body identified. The Boeing research contract is only one example of patent attribution practices that vary considerably in the market. The statement, by Mme. Dieu, describes Airbus’ practice in general, based primarily on broad experience in the European market and one agreement the company has with a U.S. entity.⁹¹ Even taken together, the documents provide insufficient evidence to identify a benchmark even with regard to patent attribution. The EC has provided no basis to believe that they offer a proper benchmark for the whole transaction.

(b) *What type(s) of evidence would support a determination on whether the terms of a financial contribution are more favourable than "the terms of a commercial transaction in which one entity pays another entity to conduct R&D"?*

⁹⁰ *Brazil – Aircraft (Article 21.5 (AB)*, para. 73.

⁹¹ Affidavit of Regina Dieu, para. 6 (Exhibit EC-1178). The U.S. entity is the National Institute of Aerospace Associates, a private foundation.

91. R&D services are not a commodity product and commercial entities both require and perform R&D services for a wide variety of reasons. In this situation, there is no model or exemplary transaction representative of all commercial transactions in which one entity pays another to conduct R&D. In line with the Appellate Body's findings in *Brazil – Aircraft*, quoted in response to Question 136(a), a party seeking to address the benefit afforded by such a transaction would need to provide evidence as to how the challenged transactions as a whole, in light of all their elements, compared to the range of transaction terms available in the market. Nothing prevents a party from presenting benchmark evidence focused on one element of such a transaction, but evidence on an individual term would be entitled to little weight outside the context of the entire transaction. Otherwise, a negotiated concession on one element of a deal might be mistaken for a benefit, when it was in fact given to gain an offsetting concession from the contractor on another element.

92. As noted above, the only evidence the EC has put forward with regard to a benchmark for research transactions focuses on one, and only one, element of the R&D purchases that it challenges, namely the attribution of rights in patents that the contractor might make while performing work under a contract. Even in this isolated area, it has failed to make a *prima facie* case.

93. The EC's evidence consists of an affidavit regarding non-specified Airbus purchases of R&D and a contract memorializing a Boeing purchase of R&D services from the University of Wichita.⁹² The EC argues that the attribution of patent rights described in these documents is less favorable to the entity performing the research than the U.S. government's treatment of Boeing in the challenged NASA and DoD transactions. The United States has offered evidence of four commercial transactions⁹³ in which Boeing paid another entity to conduct R&D. They demonstrate that when commercial entities pay other entities to conduct R&D, the parties may also agree on an attribution of patent rights comparable to those under the NASA and DoD R&D contracts. In some respects, the patent rights clauses in those commercial transactions were *more* favorable to the entity performing the research than the clauses in government contracts with Boeing, marking the government treatment as no more favorable than is available in the market. The variety in treatment seen in these contracts disproves the EC assertions that commercial purchasers of R&D services would never agree to share rights in patents for an invention made under a contract. Thus, the only evidence available to the Panel at this stage demonstrates that the transactions in question are no more favorable than those available on the market.

⁹² The EC RPQ1 also cited an article on attribution of intellectual property rights in the biotechnology industry. The United States demonstrated in its Comments on EC RPQ1 that this article actually showed that practices with regard to attribution of patent rights may vary depending on the situation of the parties. U.S. Comments on EC RPQ1, paras. 79-80.

⁹³ Exhibits US-1208, US-1209, US-1210, and US-1211.

94. On the theoretical question of what types of evidence a panel might consider in evaluating a claim that a financial contribution was on terms more favorable than available on the market, these could include:

- evidence that the transaction was subject to competitive bidding;
- evidence that the transaction was at arm's length;
- evidence regarding the terms contained in commercial transactions for the same good or service; and
- evidence regarding legal or regulatory restrictions or internal guidelines on terms contained in a transaction or the process for reaching agreement.

As noted above, the party proffering such evidence would have to place it in the context of the transaction as a whole. In contrast, the EC's arguments consist almost entirely of general observations about commercial preferences and negotiating objectives, as opposed to the range of terms actually reached in commercial deals. Moreover, the evidence cited by the EC does not provide sufficient detail to allow a comparison with the allegedly subsidized transactions.⁹⁴

95. In contrast, the United States has put forth extensive evidence relating to the question before the Panel. It has included statutes, regulations and review procedures that govern the negotiation of the challenged transactions, the contracts memorializing the terms of those transactions, along with documents showing subsequent modifications to the terms.

96. In addition, it has presented four examples of contracts under which a commercial entity (Boeing) paid other entities (four universities) to conduct specific R&D projects.⁹⁵ The United States notes, that in addition to rebutting the EC's patent-specific benchmark arguments, these transactions are evidence of the terms under which a private enterprise pays another entity to perform research services. This body of evidence demonstrates that there is a range of commercial outcomes of a negotiation for the purchase of R&D services – including situations that mirror (and in fact are, on some points, more favorable to the purchaser than) the challenged transactions.

97. Specifically, each of the contracts provided by the United States establishes the general terms and conditions under which specific research tasks (to be set out in subsequent statements of work⁹⁶) will be carried out by the seller.⁹⁷ Among the key terms are those related to price

⁹⁴ For example, Mme. Dieu states only that Airbus typically retains all patent rights when it purchases R&D services. It does not provide actual patent rights clauses that would allow an independent evaluation of how closely Airbus' attribution clauses match those in U.S. government contracts.

⁹⁵ Exhibits US-1208 (BCI), US-1209 (BCI), US-1210 (BCI), and US-1211 (BCI).

⁹⁶ *E.g.*, Exhibit US-1208 (BCI), p. 2 (defining "project research" as "research performed under a Purchase Contract or in accordance with a statement of work that is part of or incorporated into a Purchase Contract") and

(full cost reimbursement)⁹⁸ and deliverables (periodic progress reporting of results and findings, and a final report summarizing accomplishments).⁹⁹ Additionally, as previously detailed by the United States, the commercial contracts also provide that intellectual property ownership rights will be retained by the seller, and the buyer will receive a limited royalty-free license.¹⁰⁰

98. The substance of the challenged NASA and DoD transactions are no more favorable than these commercial terms. The government agreements similarly set out a statement of work governing the tasks to be performed under the contracts.¹⁰¹ With respect to price, they provide for full cost reimbursement,¹⁰² and with respect to required deliverables, they provide for not only periodic and final technical reports detailing technical progress and accomplishments,¹⁰³ but also financial reporting detailing costs billed to the contract¹⁰⁴ and reporting against the approved subcontracting plan, including usage of small and minority subcontractors.¹⁰⁵ Additionally, the government agreements provide that the seller retains IP ownership rights and the buyer receives a royalty-free license for any government purpose use (without the obligation, contained in some

Exhibit US-1211 (BCI), p. 1.1 (defining “Research Project” as “the programme of work to be undertaken as set out in Annex A of the Contract”).

⁹⁷ *E.g.*, Exhibit US-1208 (BCI), p. 1 (defining “Agreement” as “this Agreement and each and every Purchase Contract, all exhibits and schedules now or hereafter made a part of this Agreement or any Purchase Contract”); Exhibit US-1209 (BCI), p. 2 (defining “Research project” as “the individual research projects to be performed under this Agreement as outlined in the Project Plan.”); Exhibit US-1211(BCI), p. 1.1 (noting that each contract “will be subject to the terms and conditions of this Framework Collaboration Agreement”); and Exhibit US-1210 (BCI), p. 3a (specifying that “{e}ach Research Agreement will incorporate this General Terms Agreement by reference.”)

⁹⁸ Exhibit US-1209(BCI), p. 1.3 (defining “Costs” as “all direct and indirect costs incurred . . . in conducting the Research Project up to the amount indicated on the individual Project Plan.”); see also Exhibit US-1210 (BCI), p. 3b (noting that “{e}ach Research Agreement will contain a Project Plan. The Project Plan will include, at a minimum, the title of the Project, scope of work for the Project, identification of the principal investigator(s), the effective date of the Project and its period of performance, including start date and completion date, total funding authorization, and a detailed budget.”)

⁹⁹ Exhibit US-1208 (BCI), p. 2.2; Exhibit US-1209 (BCI), p. 9; Exhibit US-1211 (BCI), p. 4.

¹⁰⁰ US RPQ1, paras. 63-65.

¹⁰¹ *E.g.*, DoD Contract F33615-92-C-5971, Section C (Exhibit US-626); NASA Contract NAS1-19345, Attachment A (Exhibit US-533).

¹⁰² *E.g.*, NASA Contract NAS1-19345 (Exhibit US-533)(HSBI), Section I, FAR 52.216-7 (incorporated by reference); see also DoD Contract F33615-93-C-4334 (Exhibit US-633) (HSBI) Section I, FAR 52.216-7 (incorporated by reference).

¹⁰³ *E.g.*, NASA Contract NAS1-19345, Exhibit B, IA (Exhibit US-533); DoD Contract F33615-93-C-4334, Exhibit A, p. 1 (Exhibit US-633).

¹⁰⁴ *E.g.*, NASA Contract NAS1-19345, Exhibit B, IB (Exhibit US-533); DoD Contract F33615-93-C-4334, Exhibit A, p. 3 (Exhibit US-633).

¹⁰⁵ *E.g.*, Contract F33615-92-C-5971, Master Subcontracting Plan; Section I, FAR 52.219-8 (incorporated by reference) (Exhibit US-626); NASA Contract NAS1-19345, Exhibit D (Exhibit US-533).

of the benchmark agreements, that the buyer enter into additional negotiations for a royalty-bearing license related to any use outside of specified fields of use).¹⁰⁶ In fact, the government transactions are, in some respects, less favorable to the seller than the commercial transactions.¹⁰⁷

99. This extensive evidence demonstrates that the terms of the challenged NASA and DoD R&D contracts are no more favorable than the terms of a commercial transaction in which one entity pays another entity to conduct R&D.

- (i) *Are there circumstances in which a Panel could find that it is "axiomatic" / self-evident that the terms of a particular financial contribution are more favourable than those that would be available to the recipient on the market?*

100. Yes, in the cast of a grant, it may be self-evident that it is being provided on terms more favorable than the market, but only if the complaining party first proved that a measure was a grant. In general, the United States considers that a benefit analysis is, by its nature, fact sensitive, and a Panel should be wary of presuming that any transaction is on better than market terms without doing an objective assessment of those terms. There may be circumstances in which the evidence supports a presumption that the terms of a financial contribution confer a benefit. For example, a government authority may have a stated policy of providing loans on terms that would not be available to the borrower in the market. However, if there is no such evidence justifying a presumption of better-than-market terms, a more detailed consideration of the facts will be necessary.

101. More specifically, in the case of the challenged NASA and DoD measures, the United States has rebutted the "benefit" element of the EC's prima facie case with evidence that (1) substantially all of the relevant DoD contracts, and most of the NASA contracts,¹⁰⁸ were subject

¹⁰⁶ US RPQ1, para 64-65.

¹⁰⁷ NASA and DoD contractors are not only subject to the Federal Acquisition Regulations, but are also required to comply with the agency-specific adaptations of these requirements. As already extensively detailed by the United States, these requirements impose significant burdens on federal contractors that are simply not present in non-federal commercial transactions.

¹⁰⁸ The U.S. response to Question 190, first table, item 2, references evidence showing that 39 of 41 DoD contracts referenced by the United States were subject to competitive procedures. Of the NASA contracts referenced in Exhibit US-1245, the following exhibits indicate NASA contracts subject to competition: US-402, p. 1/37, box 13; US-410, p. 1/46, box 13; US-412, p. 1/75, box 13; US-472 (BCI), p. 2/43, box 13; US-474 (BCI), p. 2/43, box 13; US-475(BCI), p. 1/1, box 13; US-477(BCI), p. 1/46, box 13; US-529(HSBI), p. 1/43, box 13; US-533 (HSBI), p. 1/65, box 13; US-535 (HSBI), p. 1/67, box 13; US-538(HSBI), p. 1/43, box 13; US-541(HSBI), p. 1/42, box 13; US-544(HSBI), p. 1/40, box 13; US-548(HSBI), p. 1/43, box 13; US-553(HSBI), p. 1/56, box 13; US-558(HSBI), p. 1/53, box 13; US-567(HSBI), p. 1/34, box 13; US-569(HSBI), p. 1/38, box 13; US-572(HSBI), p. 1/58, box 13; US-577(HSBI), p. 2/309, box 13; US-579(HSBI), p. 1/80, box 13; US-582(HSBI), p. 1/47, box 13; US-585(HSBI), p. 2/65, box 13; and EC-347, p. 1/199, box 13. Only three NASA contracts indicate an award without competition: NAS1-97040 (Exhibit US-421, p. 1/28, box 13); NAS4-00041 (Exhibit US-440, p. 1/89, box

to competitive bidding; (2) the challenged transactions were negotiated at arm's length and reviewed to ensure that fair value was exchanged; and (3) commercial entities do pay other entities to perform R&D on terms no more favorable than the U.S. government offers under its contract. Thus, this is not a situation in which the Panel could find that it is "axiomatic" or self-evident that the challenged transactions are on terms more favorable than are available in the market. It is, to the contrary, incumbent upon the Panel to conduct an "objective assessment" of the evidence before it, which demonstrates that the challenged transactions do not confer a benefit on Boeing, but rather represent payments for R&D services on market terms.

- (ii) *Do sub-contracts concluded under the NASA and DOD R&D programmes at issue (including but not limited to sub-contracts entered into by Boeing/MD) constitute "commercial transactions in which one entity" (the prime contractor) "pays another entity" (the sub-contractor) "to conduct R&D"?*

102. The subcontracts concluded under the NASA and DoD R&D programs at issue do constitute commercial transactions in which one private entity pays another private entity to conduct R&D. As the United States discussed in its response to Questions 130 and 131, above, the contractor is responsible for developing its own (if any) subcontracting plan, and then selects, pays for, and takes on rights and responsibilities with respect to the performance of those subcontractors. The government's passive approval rights with respect to subcontractors, and the particular contract clauses that it requires its prime contractors to include in those subcontracts, simply form part of the legal background against which the arms-length negotiation takes place.

- (iii) *Assuming that sub-contracts concluded under the NASA and DOD R&D programmes at issue could be found to constitute a possible market benchmark against which the terms of any financial contributions provided to Boeing/MD under NASA/DOD R&D programs could be compared for the purpose of determining the existence of "benefit", please explain how a comparison of the terms of prime contracts entered into by Boeing/MD with NASA/DOD with the terms of sub-contracts (including but not limited to sub-contracts entered into by Boeing/MD) supports the parties' respective positions on whether financial contributions made to Boeing/MD by NASA or DOD through prime contracts did or did not confer a "benefit" within the meaning of Article 1.1(b).*

103. Assuming that subcontracts could be found to constitute a market benchmark against which the terms of any financial contribution provided to Boeing/MD could be compared, the

13); and NAS4-02103 (initially numbered as 4-01044) (Exhibit US-441, p. 1/56, box 22;). NASA disbursed \$23.8 million under these three contracts. The verification process conducted in response to Question 188 indicated that two of them (NAS4-00041 and NAS4-02103) involved maintenance and upkeep of NASA research aircraft, a type of expenditure not covered by the EC allegations.

United States recalls that the only support that the EC offers for this approach is to assert that “{g}enerally, when private corporations fund other entities to carry out research on their behalf, they retain full rights to any intellectual property created.”¹⁰⁹ However, the evidence submitted by the United States rebuts this assertion. In particular, it shows that private parties (in this case, government contractors) pay the full cost of R&D services performed by other private parties (the subcontractors), and allow the researching party to retain ownership rights in any patents made.

137. *At paragraph 155 of EC Comments on US RPQ1, the European Communities indicates that it "agrees with the United States that it is the European Communities' burden to demonstrate pass-through of benefits from Spirit to Boeing".*

(a) *To what extent does the Panel need to establish "pass through" in the context of a claim based on Articles 5 and 6?*

104. In the context of a countervailing duty proceeding subject to Part V of the SCM Agreement, a “pass through” analysis is typically required when a subsidy is bestowed on a producer of an input product and the question for an investigating authority is the extent to which “subsidies on inputs may be included in the determination of the total amount of subsidies bestowed on processed products.”¹¹⁰ “Pass through” also applies in the context of a claim under Part III of the SCM Agreement involving a subsidy provided directly to a company that does not make (and is not related to a party that makes) the product alleged to be involved in the causing of adverse effects. In the latter case, it is necessary to show that the subsidy passed through to the producer of the product at issue, thus making that product a subsidized product.¹¹¹

105. Thus, for purposes of this dispute, pass through becomes relevant to a claim based on Articles 5 and 6 if the complaining party contends that a financial contribution to an entity that is unrelated to the producer of the allegedly subsidized product and that is not itself producing the allegedly subsidized product, in fact confers a benefit on the allegedly subsidized product and leads to the alleged adverse effects. The complaining party bears the burden of making a *prima facie* case that there is a benefit to the allegedly subsidized product. The Panel must find “pass through” to the extent necessary to conclude that the benefit associated with a financial contribution resided with the producer of the allegedly subsidized product, and not with the recipient of the financial contribution. The nature of the evidence to establish that the benefit has shifted from the recipient to another entity will depend on the relationship of the entities and the other facts of the case.

¹⁰⁹ *E.g.*, US RPQ1, paras. 64-67; U.S. response to Question 220.

¹¹⁰ *US – Softwood Lumber CVD Final (AB)*, para. 140.

¹¹¹ *See* SCM Agreement, Articles 5(c) and 6.3 (describing “serious prejudice” as involving effects relating to a “like product” and a “subsidized product”).

106. In this dispute, the majority of the R&D spending challenged by the EC went to entities that are unrelated to Boeing and that are not producing the allegedly subsidized products. Although some supply inputs for Boeing civil aircraft, none produce large civil aircraft and few even produce inputs for such large civil aircraft. The EC has not even tried to make a prima facie case that the benefit associated with those transactions passed through to the LCA that are, allegedly causing the adverse effects. For example, as we discuss further in response to Question 176, the majority of the NASA program funding challenged by the EC went to entities other than Boeing that do not produce LCA – universities, private research institutions, companies such as Swales & Associates, QSS, Inc., Raytheon, Orbital Science Corp., and Arcata Technologies, and even competitors in the military business like Lockheed Martin.¹¹² The EC has not even alleged that such payments were financial contributions,¹¹³ let alone shown that they conferred a benefit to Boeing.

107. The EC has at least made pass through *allegations* with regard to the KDFA bonds, Wichita IRBs, and Washington State B&O tax. However, as we have shown elsewhere, it has failed to make a *prima facie* case.¹¹⁴

(b) *Please respond to the arguments of Brazil set out at paras. 17-19 of its Third Party Written Submission.*

108. This segment of Brazil’s Third Party Written Submission makes three points. We will address each in turn.

109. **Paragraph 17.** Brazil asserts that the SCM Agreement does not “preclude” a finding that “a subsidy in the form of a financial contribution to . . . third parties that confers a benefit on Boeing.” The United States has never asserted that such a finding is precluded. Rather, when an alleged subsidy is provided to an unrelated entity that does not manufacture the allegedly subsidized product, the complaining party bears the burden of proving that a financial contribution to such an unrelated company in a different market confers a benefit to the alleged subsidized merchandise (that is, that it “passes through”). A panel evaluating such a claim cannot assume the existence of pass-through, but instead must evaluate the evidence to determine whether the complaining party has met this burden and, if so, whether the responding party has successfully rebutted.

¹¹² At the second panel meeting, the United States submitted data from two recent NASA R&D programs challenged by the EC, which showed that Boeing and McDonnell Douglas received between 1 and 3 percent of the total program budget, while universities accounted for 6-10 percent, and other contractors 30-32 percent. Other contractors included Swales & Associates, QSS, Inc., Raytheon, Orbital Science Corp., Arcata Technologies, United Technologies, and Lockheed Martin. Exhibit US-1255.

¹¹³ The NASA payments the EC has challenged are “funds in the form of grants to Boeing’s LCA division.” EC FWS, paras. 524 (ACT Program); 548 (HSR Program); 572 (AST Program); 588 (HPCC Program); 603 (Aviation Safety Program); 618 (QAT); 631 (VSP Program); and 650 (R&T Base Program).

¹¹⁴ US FWS, paras. 467-81, 625-36, 646-54.

110. In support of the proposition that third-party financial contributions are subject to challenge, Brazil notes that in *Brazil – Aircraft*, the panel found that

to the extent Canada can establish that PROEX III payments allow the purchasers of a product to obtain export credits on terms more favourable than those available to them in the market, this will, at a minimum, represent a *prima facie* case that the payments confer a benefit on the *producers* of that product as well, as it lowers the cost of the product to their purchasers and thus makes their product more attractive relative to competing products.¹¹⁵

What Brazil fails to recognize is that, although the panel does not use the term, it described a pass-through analysis. The panel found that, in challenging a third-party financial contribution, the complaining party must establish a benefit to the allegedly subsidized product, namely that it became “more attractive relative to competing products.” Thus, Brazil’s quotation supports the U.S. view that, when a party that is unrelated to the producer and that does not produce the subsidized product receives a financial contribution a Member challenging that contribution must show a benefit *to the allegedly subsidized product*.

111. **Paragraph 18.** Brazil contends that:

the type of “pass-through” analysis contemplated in *U.S.-Softwood Lumber IV (AB)* is not directly relevant in this case, unless there are similar facts and circumstances involving a subsidized upstream product that is incorporated by Boeing into a downstream “processed product.”

Brazil then asserts that the claims in this dispute appear to be more similar to those in *Brazil – Aircraft* and *Canada – Aircraft*. It is mistaken. The EC has alleged that B&O tax adjustments, City of Wichita industrial revenue bonds, and Kansas Development Finance Authority bonds to unrelated suppliers of components in fact confer a benefit on Boeing. Some of the spending under NASA programs challenged by the EC also involved contracts with suppliers of Boeing (and Airbus) such as United Technologies.¹¹⁶ Thus, such funding went to unrelated entities not themselves producing the allegedly subsidized product. Moreover, the factual circumstances were quite similar to the set of circumstances confronted by the Appellate Body in *Softwood Lumber CVD Final (AB)* and laid out by Brazil – that the alleged subsidies “involv{ed} a subsidized upstream product that is incorporated by Boeing into a downstream processed product.”

¹¹⁵ Third Party Written Submission of Brazil, para. 17, citing *Brazil – Aircraft (Article 21.5) II*, footnote 42. In paragraph 17, Brazil describes this as a finding of the Appellate Body, but it actually appeared in a panel report that was not subject to review by the Appellate Body. In paragraph 17, Brazil also asserts that *Canada – Aircraft* contains a similar finding. As Brazil has not provided a citation, the United States is not in a position to address this assertion.

¹¹⁶ Exhibit US-1255.

112. Accordingly, Brazil errs when it argues that the reasoning of *US – Softwood Lumber CVD Final (AB)* “is not directly relevant” to the question of whether financial contributions to third parties confer benefits to producers that do not purchase inputs from those third parties. In that report, the Appellate Body outlined the basic “problem” as “{w}here the subsidies at issue are received by someone other than the producer of the investigated product, the question arises whether there is subsidization in respect of that product.”¹¹⁷ Thus, the central concern is independent of the input supplier-producer relationship. The Appellate Body’s conclusion was “{w}here the producer of the input is not the same entity as the producer of the processed product, it cannot be presumed, however, that the subsidy bestowed on the input passes through to the processed product.”¹¹⁸ The basis for this conclusion is that the recipient and producer are “not the same entity.” The observation that the third party in the *US – Softwood Lumber CVD Final* dispute was a supplier merely describes the nature of the relationship between the third party and producer, and has no significance to the legal conclusion that pass-through must be demonstrated and “cannot be presumed.” Where, as here, the alleged subsidy is provided directly to companies that do not produce, and are not related to a producer of, the product at issue (i.e., where there is a need to establish that it is subsidies benefiting the merchandise at issue that are causing adverse effects), the finding in *US – Softwood Lumber CVD Final (AB)* that the complaining party must establish pass through is directly relevant.

113. **Paragraph 19**, Brazil goes on to argue that a traditional pass through analysis . . . may not be appropriate in the context of research and development funding” because “{i}t may be unduly difficult to conduct such analysis, given the likely absence of an arm’s length price to test whether the prices paid by Boeing for . . . any subsidised research and development . . . reflect market levels.” Brazil misses the point of the Appellate Body’s reasoning in *US – Softwood Lumber CVD Final*. A pass-through analysis based on input prices was “appropriate” because those prices provided a possible mechanism for pass-through. Similarly, in *Brazil – Aircraft II (21.5)*, the finding that preferential financing to aircraft purchasers reduced the cost of buying aircraft, and therefore conferred a benefit on the producers¹¹⁹ was a pass-through analysis in substance if not in name. That does not, however, suggest that the complaining party’s burden of proof should be *lower* (or, to use Brazil’s words, less “difficult”) when the third party recipient of a financial contribution is *not* an input supplier or purchaser of finished products. Rather, the reverse is true – pass through should be even less easily accepted when there is no relationship between the entities at all – not even a supplier-purchaser relationship.¹²⁰

¹¹⁷ *US – Softwood Lumber CVD Final (AB)*, para. 140, quoting *US – Softwood Lumber CVD Final (Panel)*, para. 7.85.

¹¹⁸ *US – Softwood Lumber CVD Final (AB)*, para. 140. See also US FWS, para. 625, n. 822.

¹¹⁹ *Brazil – Aircraft (Article 21.5 II)*, para. 5.28, note 42.

¹²⁰ The United States is aware of the third-party financial contributions alleged by the EC involving Boeing suppliers. However, third-party payments under NASA research programs, for example, went to Boeing competitors (e.g., Lockheed Martin) or unaffiliated enterprises (e.g., QSS, Inc.) (Exhibit US-1255).

114. Thus, Brazil is correct in a sense, at least to the extent that a pass-through analysis based on input prices has no place when there is no relationship between the allegedly subsidized enterprise and the company producing the allegedly subsidizing product. However, that does not lessen the requirement for a complaining party alleging that a financial contribution to a third party conferred a benefit to the producer of allegedly subsidized merchandise to explain how the benefit to the third party passed to a non-recipient.

138. *According to the European Communities, subsidies provided to McDonnell Douglas prior to its merger with Boeing "benefit Boeing's LCA division, and are reflected in the pricing and technologies of Boeing LCA". (EC FWS, para. 22)*

(b) *To the United States: Is the Panel correct in its understanding that the United States does not dispute that any subsidies provided to McDonnell Douglas prior to its merger with Boeing "benefit Boeing's LCA division, and are reflected in the pricing and technologies of Boeing LCA"?*

115. The United States does not dispute that, to the extent the Panel concludes that one of the programs challenged by the EC conferred a benefit to McDonnell Douglas prior to its merger, the Panel may treat that benefit as conferred on Boeing's large civil aircraft division after the merger. As to whether any such benefit is "reflected in the pricing and technologies of Boeing LCA" during the 2004-2006 period subject to the EC's adverse effects claims, that would require an additional analysis of the effect of the alleged subsidy. We note in this regard that, to the extent the EC seeks to link particular alleged subsidies to particular aircraft, any subsidies found to exist with regard to McDonnell Douglas should be found to be linked to aircraft developed by McDonnell Douglas – the 717, MD-11, MD-80, and MD-90. As Boeing did not sell those aircraft during the 2004-2006 period, any subsidies tied to those aircraft under an analysis linking alleged subsidies to aircraft could not be treated as having an effect on Boeing large civil aircraft in the 2004-2006 period.

3. Specificity

(a) General

140. *At paragraph 186 of its Comments on US RPQ1, the European Communities argues that "[i]f DOD has "organized, budgeted and reviewed" its own RDT&E efforts based on PEs, then there is no reason why the European Communities should be precluded from doing the same" for the purpose of its specificity analysis. How does the United States respond?*

116. In accordance with the views of the United States, the EC admits in its Comments on US RPQ1 that specificity is appropriately examined at the program level for DoD RDT&E.¹²¹ The

¹²¹ EC Comments on US RPQ1, para. 186; US RPQ1, paras. 145-146; US Comments on EC RPQ1, para. 158.

EC makes its argument regarding specificity for DoD RDT&E at the PE level only in the alternative. However, as the United States has previously explained, if a complaining party considers that specificity should be examined at a given level, it must provide a reasoned basis for doing so, based on the facts relevant to the particular measure.¹²² The EC had not even attempted to meet this burden before the submission of its Comments on US RPQ1, and its cursory statements in that submission do nothing to remedy that omission.

117. The document cited by the EC does mention program elements as a “primary data element” and “a major aggregation, at which RDT&E efforts are organized, budgeted and reviewed.”¹²³ But what the EC fails to recognize is that the sentence it quotes comes from a two-page segment of the DoD Financial Management Regulations, which address the policy, regulations, and procedures that are the responsibility of the Comptroller of DoD. This document deals with the organization and review of the *DoD budget*, not of the research efforts themselves.¹²⁴ Furthermore, the EC has not addressed the facts that demonstrate that PEs are not the appropriate level at which to examine the specificity of DoD RDT&E efforts. As the United States has explained, the DoD program offices responsible for general aeronautics research do not organize their efforts by PE number. Individual offices may receive funding under multiple PE numbers. DoD contracting officers have discretion to draw on funding from various PEs for their contracts, so long as the use coincides with one of the spending authorizations set out in the PE. In fact, 21 of the 41 DoD contracts at issue in this dispute received funding under multiple PE numbers, thus demonstrating that the PE level is not the proper level at which to assess specificity.¹²⁵ For instance, funding for research services purchased under Air Vehicle Technology Integration Program (AVTIP) came from PEs 0602201F, 0603221F, 0603205F, and 0602203F.¹²⁶

(b) *"an enterprise or industry or group of enterprises or industries within the jurisdiction of the granting authority"*

141. *At para. 520 and footnote 834 of its SWS, the European Communities argues that despite US claims to the contrary, ATP funding is limited to only US companies. What is the legal relevance, for the purpose of Article 2, of whether funding is limited to "only US companies"?*

¹²² US RPQ1, paras. 143.

¹²³ DoD Financial Management Regulation, Volume 2B, Chapter 5, June 2006, at 5-3 (Exhibit EC-1324).

¹²⁴ The document cited by the EC does not contain budget spending data, nor does it indicate the specific activities carried out using budgeted funds. It merely describes the broad categories under which spending may occur.

¹²⁵ DoD Contracts with Funding from Multiple PEs (Exhibit US-1267).

¹²⁶ DoD Contracts with Funding from Multiple PEs (Exhibit US-1267).

118. For purposes of the Article 2 specificity analysis, the limitation of ATP funding to only U.S. companies has no legal relevance. At the outset, it is important to note that the EC does not appear to argue that ATP is specific because it is limited to only U.S. companies. Rather, the EC's specificity claim is based on its argument that ATP is limited to those entities that perform research into "high risk, high pay-off, emerging and enabling technologies."¹²⁷ But as the United States has previously explained, the "group" that the EC has attempted to construct is so artificial and unlimited as to render the concept of a "group" under Article 2.1 meaningless.¹²⁸

119. Although the ATP statute permits funding only for U.S.-owned or incorporated companies,¹²⁹ that does not preclude foreign participation in ATP. As the United States explained in its FWS, U.S.-incorporated subsidiaries of non-U.S. parent companies are eligible to lead or participate in ATP projects,¹³⁰ and have, in fact, done so.¹³¹ Through their U.S. subsidiaries, foreign companies may share in the benefits of ATP-funded projects.

120. Setting aside the issue of the type of foreign participation that is permitted under ATP, there is still no legal relevance for purposes of the Article 2 specificity analysis of ATP's funding for only U.S.-owned or incorporated companies. This is because the limitation to U.S.-owned or incorporated companies does not result in ATP funding being "specific to an enterprise or industry or group of enterprises or industries ... within the jurisdiction of the granting authority."¹³²

142. *In its response and comments on Question 48, the European Communities suggests that there is no significant difference between the parties' respective interpretations of the concept of a "group" of enterprises or industries, and that the source of the parties' disagreement lies rather in the application of that concept to the measures at issue. (EC Comments on US RPQ1, paras. 166-167) Does the United States agree? Does the United States agree that "[n]othing in the SCM Agreement or in the ordinary meaning of "a group of enterprises or industries" precludes such a group from being large and diverse, or from being engaged in the production of a variety of end-products"? (e.g., EC Comments on US RPQ1, para. 168)*

121. The United States disagrees with the EC's suggestion that there is no significant difference between the two parties' interpretation of the concept of a "group" of enterprises or industries. The United States has both a different interpretation of the general concept of a

¹²⁷ EC SWS, para. 520.

¹²⁸ US RPQ1, paras. 131-136 and US Comments on EC RPQ1, paras. 153-156.

¹²⁹ 15 U.S.C. § 278n(d)(9) (Exhibit EC-532).

¹³⁰ US FWS, para. 370 and n. 486.

¹³¹ US FWS, para. 372 and n. 490.

¹³² Article 2.1.

“group” of enterprises or industries than the EC and a different view of how the concept of a “group” applies to ATP.

122. As the United States set forth in its RPQ1, based on the ordinary meaning, a group is “[a] number of people or things regarded as forming a unity or whole on the grounds of some mutual or common relation or purpose, or classed together because of a degree of similarity.”¹³³ Although the EC cites the same dictionary definition of the word “group,” it interprets this term much more expansively than the United States. The EC asserts that a “group” may be “large and diverse” but in fact places virtually no limits on what may constitute a group.¹³⁴ In contrast, the United States considers that the language and context of Article 2 require some specificity, or in other words, some limitation on the group.¹³⁵ For a subsidy to be specific, it must be something more limited than general.

123. As for the Panel’s second question, the United States does not disagree in principle that a “group of enterprises or industries” may be engaged in the production of a variety of end-products for purposes of Article 2 of the SCM Agreement. The United States recognizes that to the extent that Article 2 applies to “industries” – in the plural form – the industries need not produce the same end-products to constitute a group. The United States further recognizes that a “group of enterprises or industries” may be large, but it cannot be so large, so diverse, or be comprised of so many industries as to render it virtually unlimited, as would be the case under the EC’s interpretation. This is because the concept of a “group” should be interpreted in the context in which it is used. Article 2 is preceded by the heading “Specificity” and its subparagraphs seek to define when a subsidy is “specific” as opposed to “general” or “broadly available.” In other words, the context clearly indicates that there must be some limitation on the group that is restrictive enough to make it “specific”.

124. The importance of some limitation on the concept of specificity was recognized by the panel in *US – Upland Cotton* when it said, “At some point that is not made precise in the text of the agreement, and which may modulate according to the particular circumstances of a given case, a subsidy would cease to be specific because it is sufficiently broadly available throughout an economy as not to benefit a particular limited group of producers of certain products.”¹³⁶ To the extent that a subsidy is granted to a “group of enterprises or industries” that is so large and diverse that it is “sufficiently broadly available throughout an economy,” it is no longer specific.

125. And that is precisely the case with ATP. Despite the EC’s continued arguments that ATP applies to a group of enterprises or industries – those engaged in “high risk, high pay-off,

¹³³ US RPQ1, para. 133, (citing *New Shorter Oxford English Dictionary*, p. 1151).

¹³⁴ EC RPQ1, para. 144.

¹³⁵ US Comments on EC RPQ1, para. 154.

¹³⁶ *US – Upland Cotton (Panel)*, para. 7.1142 (citing *US – Softwood Lumber CVD Final (Panel)*, para. 7.120).

emerging and enabling technologies,” ATP is not specific because ATP funding is “sufficiently broadly available throughout {the U.S.} economy as not to benefit a particular limited group of producers of certain products.”¹³⁷ As the EC points out, “{w}hether a subsidy is specific can only be assessed on a case-by-base basis.”¹³⁸ Although in several prior submissions the United States has explained the broad availability of ATP throughout a wide swath of the U.S. economy, it bears repeating here. Companies of all sizes, sectors, and industries are eligible for ATP funding. Some of the many sectors that have ATP project participants include advanced materials and chemicals, biotechnology, electronics, computer hardware and communications, information technology, and manufacturing.¹³⁹ And some of the over 1,500 participants in ATP projects deal with technology related to advanced materials and chemicals; bioinformatics; computer hardware, systems, and software applications; electronic instrumentation, energy conversion, generation, resources, and storage; machine tools; manufacturing; metals and alloys; optics and photonics; and polymer synthesis and polymer fabrication, semiconductors, and separation technology, to name just a few.¹⁴⁰ As these examples demonstrate, ATP’s broad availability across a wide range of sectors of the U.S. economy renders it non-specific under Article 2 of the SCM Agreement.¹⁴¹

143. *At para. 156 of its Comments on EC RPQ1, the United States argues that “the EC’s understanding of a “group of enterprises or industries” renders Article 2.1(b) and footnote 2 meaningless and must be rejected”. Could it not be argued that Article 2.1(b) gives rise to the negative implication that enterprises with a similar “number of employees” or “size” can constitute a “group” of enterprises for the purpose of Article 2.1(a)?*

126. The United States recognizes that there is an argument to be made that Article 2.1(b) gives rise to the negative implication that enterprises with a similar “number of employees” or “size” could constitute a group for purposes of Article 2.1(a) to the extent that access to a

¹³⁷ *US – Upland Cotton (Panel)*, para. 7.1142 (citing *US – Softwood Lumber CVD Final (Panel)*, para. 7.120).

¹³⁸ EC Comments on US RPQ1, para. 169 (citing *US – Upland Cotton (Panel)*, para. 7.1142).

¹³⁹ ATP Awards Summary Data - Awards (Technology Area by Year), Factsheet 3.B1 (Sept. 2004) available at <http://www.atp.nist.gov/factsheets/3-b-1.pdf> (Exhibit US-151).

¹⁴⁰ ATP Funded Technologies, available at <http://www.atp.nist.gov/atp/category.htm> (last visited May 8, 2007) (Exhibit US-152).

¹⁴¹ In attempting to bolster its argument that ATP is specific, the EC cites *US – Upland Cotton* for the proposition that “ATP funding is not available to ‘the entire universe of United States production of goods.’” EC Comments on US RPQ1, para. 177 and n. 150 (citing *US – Upland Cotton (Panel)*, para. 7.1148). But it is important to note that this is not the test for specificity established by the panel in *US – Upland Cotton (Panel)*. Rather, in the excerpt quoted by the EC, the panel was simply noting that some of the measures at issue in that dispute were specific because they “pertain to a restricted number of agricultural products, but are not widely or generally available in respect of all agricultural production, let alone the entire universe of United States production of goods.” *US – Upland Cotton (Panel)*, para. 7.1148.

subsidy is “explicitly limit{ed}”¹⁴² based on those criteria. In this regard, a subsidy that is limited to a “group” of enterprises based on size or number of employees could be considered *de jure* specific under Article 2.1(a), although it does not have to be so. But even if a complaining party made an Article 2.1(a) *de jure* specificity argument based on limitations on access to the subsidy pertaining to size or number of employees, this would not prevent a responding party from raising the affirmative defense that the subsidy is actually *de jure* non-specific under Article 2.1(b). Thus, a subsidy that could be considered *de jure* specific under Article 2.1(a) may still be found to be *de jure* non-specific under Article 2.1(b), provided that it meets the objective criteria or conditions set forth in Article 2.1(b) and footnote 2, as well as the other requirements of Article 2.1(b). This, of course, would not prevent a complaining party from arguing that a subsidy is *de facto* specific under Article 2.1(c).

(c) *“the granting authority, or the legislation pursuant to which the granting authority operates”*

144. *Article 2.1(a) states that where “the granting authority, or the legislation pursuant to which the granting authority operates” explicitly limits access to a subsidy to certain enterprises, such subsidy shall be specific. For the purposes of Article 2.1(a), what is the “subsidy”, what is “the granting authority”, and what is “the legislation pursuant to which the granting authority operates”, in the case of each of the following:*

- (a) *HB 2294: B&O tax rate reduction;*
- (b) *HB 2294: B&O tax credits;*
- (c) *Master Site Agreement: provision of coordinators;*
- (d) *Master Site Agreement: road improvements;*
- (e) *Illinois: EDGE tax credits;*
- (f) *Illinois: local property tax abatements;*
- (g) *NASA “direct R&D funding” to Boeing/MD;*
- (h) *NASA “facilities, employees, and equipment” to Boeing/MD;*
- (i) *DOD “direct R&D funding” to Boeing/MD;*
- (j) *DOD “facilities, equipment, and employees” to Boeing/MD;*
- (k) *NASA/DOD intellectual property right waivers/provisions;*
- (l) *NASA/DOD reimbursement of IR&D and B&P costs; and*
- (m) *DOL grant.*

127. Exhibit US-1268 contains a table providing the U.S. response to this question. With the exception of items (b) and (f), the United States contests the characterization of these programs as “subsidies.” Therefore, for all programs except items (b) and (f), the table in Exhibit US-1268 indicates what the United States understands to be the EC subsidy allegation. For “granting authority,” the United States reports the government entity that provides the treatment challenged

¹⁴² SCM Agreement, Article 2.1(a).

by the EC. For the “legislation under which the granting authority operates,” the United States reports the legislation authorizing the entity to provide the treatment challenged by the EC.

(d) *"objective criteria or conditions"*

145. *In Question 49, the Panel invited the parties to elaborate their views as to the meaning of "objective" criteria or conditions within the meaning of Article 2.1(b) and footnote 2. Does the United States agree or disagree with the interpretation of Article 2.1(b) and footnote 2 advanced by the European Communities in its response to Question 49?*

128. The United States does not disagree with the interpretation of objective criteria or conditions in Article 2.1(b) and footnote 2 advanced by the EC in its response to Question 49, to the extent that the EC lays out the three elements of objective criteria or conditions found in footnote 2.¹⁴³ But contrary to the EC’s suggestion, the United States does not argue that a subsidy that is found to be *de jure* non-specific under Article 2.1(b) is necessarily not actionable.¹⁴⁴ A *de jure* non-specific subsidy under Article 2.1(b) may still be found to be *de facto* specific under Article 2.1(c), and therefore actionable.

129. It is also worth noting that in the EC’s comments on Question 49, the EC continues to misunderstand the City of Everett’s utility rates and their application to Boeing. The EC states that is not challenging the overall utility rates charged by the City of Everett and Snohomish County, but the manner in which those rates are applied to Boeing through the Master Site Agreement. Regardless of the manner in which the EC attempts to challenge the City of Everett’s utility rates, these rates are not specific to Boeing, by virtue of the Master Site Agreement or anything else. Contrary to the EC’s contention, the Master Site Agreement did not indefinitely freeze utility rates for Boeing at 2003 levels. Rather, as the United States explained in its FWS, the Master Site Agreement states that the “Maximum Aggregate Rates and Fees” for utilities will be the “applicable regulated tariff rate.”¹⁴⁵ The “applicable regulated tariff rate” is set by ordinance, and all commercial, industrial, and governmental users pay the same rate under the relevant ordinances. Accordingly, these utility rates, which are the rates paid by Boeing, meet the definition of objective criteria or conditions found in Article 2.1(b) and footnote 2 of the SCM Agreement.

B. NASA AERONAUTICS RESEARCH & DEVELOPMENT

1. Existence of a specific subsidy

150. *Please direct the Panel to the arguments and evidence on record concerning:*

¹⁴³ EC RPQ1, paras. 146-147.

¹⁴⁴ EC Comments on US RPQ1, para. 179.

¹⁴⁵ US FWS, paras. 554-558, and Master Site Agreement, Exhibits C-1, C-2, C-3, and C-4 (Exhibit EC-58).

- (a) *the process followed in selecting contractors under the NASA R&D programmes at issue; and*
- (b) *the process followed by NASA in formulating the "statements of work" contained in the R&D contracts at issue, including the extent of Boeing/MD's involvement in that process.*

Please indicate whether the same processes were followed in the case of Procurement Contracts and Cooperative Agreements.

130. Arguments regarding the process followed in selecting contractors under the NASA R&D programs at issue appear in US FWS, paras. 214-216. Evidence regarding this process appears as follows¹⁴⁶:

- | | | |
|-----|---|--|
| (1) | Public request for proposals through a solicitation or NASA Research Announcement, indicating the nature of the work sought and procedures for making a proposal. | US-403, US-411, US-416, US-423, US-428, US-433, EC-569, EC-570, EC-588; EC-589; EC-613 |
| (2) | In appropriate circumstances, when justified and approved in accordance with governing regulations, ¹⁴⁷ NASA could decide to designate a "sole source" for a particular research effort. | US-426, US-442, EC-365 |
| (3) | NASA responds to inquiries from the potential bidders. | US-413, pp. 8-9/9;
US-428, pp. 86-106/107 |
| (4) | NASA evaluates bids based on criteria laid out in the solicitation or broad agency announcement, and chooses the proposal that best meets agency needs. | US-96; US-403, pp. 105-111/111; US-414; US-417; US-430; US-446, pp.5-7/7; US-532, pp. 26-35/35; US-543; US-571, pp. 50-55/55; US-583, pp. 1-11/54; EC-947. |

¹⁴⁶ Summaries of the process appear in Exhibits US-408, pp. 6-8/14; US-478, 1-2/16; US-543, p. 1/6

¹⁴⁷ U.S. law allows NASA to use procedures other than competitive bidding procedures only in limited circumstances. 10 U.S.C. § 2304(c). The reason cited for these three transactions was 10 U.S.C. § 2304(c), which provides that "{t}he head of an agency may use procedures other than competitive procedures only when – (1) the property or services needed by the agency are available from only one responsible source or only from a limited number of responsible sources and no other type of property or services will satisfy the needs of the agency;" 10 U.S.C. § 2304(c)(1).

131. Arguments regarding the process followed by NASA in formulating the statements of work contained in R&D contracts, including Boeing/MD’s involvement in the process, appear in US FWS, para. 339 and US SWS, paras. 62-63. Evidence regarding this process appears as follows:

- | | | |
|-----|--|--|
| (1) | NASA performs internal evaluations of requirements for the contract. | US-427 |
| (2) | NASA issues a sample SOW outlining the nature of the work in its solicitation, including, where relevant, sample tasks that it will call on the contractor to perform. | US-403, pp. 13-16/111;
US-416, pp. 2&39-42/47;
US-431, pp. 9-11/103;
US-428, pp. 4-8&75-84/107;
EC-569, pp. 10-14/109;
EC-570, pp. 7-29/133;
EC 588, pp. 4-8/87;
EC-589, pp. 43-58/110;
EC-613, pp. 36-41/41 |
| (3) | NASA may modify sample SOW in response to suggestions from bidders. | US-418 |
| (4) | Each bidder submits a proposed SOW with its proposal. | US-408, pp. 6-9/14; US-478, 1-2/16; US-543, p. 1/6 |
| (5) | NASA negotiates with the bidders over the contents of the SOW. | US-409, p. 1/9; US-415, pp. 8-9/19; US-422, p. 2/8; US-32, p. 19/35; US-551, p. 8/12; US-555, p. 6/13; US-588, 6&11/11 |
| (6) | The SOW, as negotiated, appears in the final contract. | Contracts listed in Exhibit US-1245 |
| (7) | The SOW may be modified over the course of the work if NASA decides to expand the field of inquiry, modify the work in light of developments over the course of the contract, or reduce the work because sufficient funds are not available. | <i>E.g.</i> , US-561, pp. 10-13/83, 28/83, and 82-83/83 |

132. Generally, the assigned NASA technical representative for the procurement writes the statement of work. The following people review and provide comments on the Statement of

Work: the NASA contracting officer in all cases; the NASA source selection team or board members for competitive procurements (when over the simplified acquisition dollar threshold); the legal representative in some cases, depending on type of procurement and dollar value; and other NASA employees depending on type of procurement and dollar value (e.g., safety, security, information technology, or facility). The statement of work is finalized after consideration of all inputs provided by NASA reviewers.

133. Prospective offerors are not involved in writing statements of work for competitive solicitations. However, input on the draft statement of work is sometimes solicited from *all* potential offerors through release by the Government of a draft statement of work or draft solicitation to industry. In such cases, the input received from *all* responding contractors is considered in the final statement of work.

134. A prospective offeror may also file a bid protest with the Government Accountability Office concerning a statement of work or other aspects of a solicitation.¹⁴⁸

135. The only case where one company's input is solicited for the statement of work is for a noncompetitive procurement (where the use of less than full and open competition has been justified in accordance with Federal Acquisition Regulation Part 6).

136. The United States notes that the Competition in Contracting Act and Part 6.3 of the Federal Acquisition Regulations (48 CFR §§ 6.300 *et seq.*) define NASA's acquisition process. The United States understands this question as seeking information regarding materials already submitted to the Panel. Neither party has previously submitted these measures. The United States is willing to submit them if the Panel requests them.

151. *It is the Panel's understanding that, under US law, Procurement Contracts are to be used "only when the principal purpose is the acquisition of supplies or services for the direct benefit or use of the Federal Government". (48 C.F.R. §35.005(a) (Exhibit US-23))*

(a) *What do the terms "direct benefit or use" mean in this context?*

137. In the context of 48 CFR Part 35, NASA considers that a direct benefit to NASA exists when it initially drafts a scope of the work to advance research under one of its programs and defines the delivery of the end products. In the case of the procurement contracts awarded to Boeing at issue in this dispute, the research under the contract advanced one of NASA's research programs and NASA determined particular work that it needed, so it solicited proposals under a request for proposals, and awarded contracts. In other words, "direct benefit or use" means that NASA has perceived a need for outside services to advance one of its research programs, specifically defined the good or service that it is soliciting (a product, report, hardware, information, etc.), and the offeror has responded with a proposal to meet that need.

¹⁴⁸ E.g., Solicitation 1-139-3430.0251, p. 85/111, section L.17 (Exhibit US-403).

138. In contrast, under a NASA cooperative agreement, the agency defines an area of inquiry, and requests interested parties to make offers that propose a scope of work. That scope is subject to negotiation with the agency, which must approve the final scope before the agreement can be concluded. Only three NASA cooperative agreements with Boeing are raised in this dispute.¹⁴⁹

139. The Panel should note that DoD's practice in this regard differs from NASA's. DoD judges "direct benefit or use" in terms of whether the primary purpose of the transaction is the acquisition of property or services for the direct benefit or use of DoD. In some circumstances, the contractor may make the first proposal as to a statement of work for a procurement contract, and DoD will decide whether the primary purpose of acquiring the research described would be for the direct benefit or use of the government. In that case, a procurement contract would be the appropriate instrument.

(b) *Without limiting the generality of the foregoing question:*

(i) *What is the difference between "direct" and "indirect" (US RPQ1 para. 45) benefit or use in this context?*

140. The overarching statute, the Chiles Act,¹⁵⁰ uses "direct" to describe a benefit that the Government acquires by specifying the good or service that it needs. The Act does not then describe other types of benefits as "indirect" – that is a term the United States used in its responses to panel questions to refer generically to any benefit that is not "direct." Direct benefits are those that advance one of the agency's programs by fulfilling a requirement for goods or services. By contrast, Cooperative Agreement NCC-1-287 provides an example of an instrument that did not provide a direct benefit to NASA. In that agreement, NASA funded an aviation weather system conceived by a private company, which had the public purpose of advancing U.S. aviation safety. Boeing and its subcontractors agreed to make contributions of [***].¹⁵¹

(ii) *Is the test for determining whether certain R&D activities were for the "direct benefit or use" of NASA whether or not the R&D activities were linked to NASA's specified missions? If so, would it follow that NASA would be required to use a Procurement Contract if a particular R&D project was linked to NASA's mission of "[t]he preservation of the United*

¹⁴⁹ The United States discussed two of these in US RPQ1, para. 46. The verification process discussed in the U.S. response to question 188 identified one additional cooperative agreement, NCC2-99088, with an expenditure of \$120,000, as falling within the maximum value of Boeing contracts related to EC-challenged R&D.

¹⁵⁰ 31 USC Chapter 63.

¹⁵¹ Memorandum for File, Subject: Prenegotiation Position Memorandum (PPM) for Cooperative Agreement with The Boeing Company for the "Aviation Weather Information System (AWIN)" Implementation Team Proposal, p. 5 (Exhibit US-588 (HSBI), p. 8/11).

States preeminent position in aeronautics and space through research and technology development related to associated manufacturing processes"?

141. No. Consistency with the NASA mission, as stated in the Space Act, is a requirement of any instrument NASA awards, be it a grant, contract, cooperative agreement or Space Act Agreement. The Space Act does not indicate the use of a particular instrument for a particular type of transaction. Selection of the appropriate instrument is governed by the Chiles Act and implementing regulations such as the FAR.

152. *What is the difference between a Space Act Agreement and a Cooperative Agreement? Are non-reimbursable Space Act Agreements "assistance" instruments under US law?*

142. Space Act Agreements are special instruments authorized by the Space Act for use by NASA in fulfilling its mission when no other agreement is appropriate. Space Act agreements are usually unfunded, and are negotiated or awarded by the Office of the General Counsel or other authorized agency official. They are authorized under section 203(c)(5) and (6) of the Space Act, and are only available when NASA is one of the parties to a transaction.¹⁵² Under a Space Act Agreement, NASA usually does not contribute funds to the effort and, in fact, NASA did not contribute funds to the Space Act Agreements at issue in this dispute.

143. Cooperative agreements are instruments that are available to all U.S. federal agencies. NASA had only three cooperative agreements with Boeing that involved research related to large civil aircraft.¹⁵³ A cooperative agreement provides for contributions by both parties to advance a project that has a public purpose. The government may contribute funds to the project under a cooperative agreement, and typically does. (NASA contributed funds under each of the cooperative agreements at issue in this dispute.)

144. In short, Space Act Agreements are not "assistance agreements" for purposes of U.S. government procurement law.

153. *According to the United States, NASA uses non-reimbursable Space Act Agreements where it works with one or more Agreement Partners "in a mutually beneficial activity that furthers the Agency's missions." (US FWS, para. 234) Would it follow that NASA would use a non-reimbursable Space Act Agreement if an activity was aimed at the fulfilment of NASA's mission of "[t]he preservation of the United States pre-eminent position in aeronautics and space through research and technology development related to associated manufacturing processes"?*

¹⁵² Space Act, § 203(c)(5) and (6) (Exhibit EC-268).

¹⁵³ The United States discussed two of these in US RPQ1, para. 46. The verification process discussed in the U.S. response to question 188 identified one additional cooperative agreement, NCC2-99088, with an expenditure of \$120,000, as falling within the maximum value of Boeing contracts related to EC-challenged R&D.

145. No. The excerpt from the Space Act quoted in this question does not authorize the award of any specific type of agreement. The U.S. response to Question 151(b)(ii) provides additional information relevant to this question.

159. *At para. 193 of its FWS the United States mentions the "wide variety of participants directly involved in each NASA program challenged by the EC". Can the United States explain the meaning of "participants directly involved"? Are these "participants" entities that have received funding to conduct R&D under the programme or does "participants" refer to the entities that have been involved in the design of a programme? Related to this, can the United States explain whether the entities discussed at paras. 207-210 of its FWS, including non-aerospace suppliers, military aircraft manufacturers and universities, are NASA contractors under these programmes?*

146. “Participants directly involved” refers to entities involved in the planning or assessments of the various programs, or that were aware of technical progress through participation in program workshops. Some of these participants did perform contracted R&D in the various programs, but having a NASA R&D contract was not a prerequisite to involvement in planning or assessment, or participation in program workshops. Conversely, such involvement or participation did not entitle the participant to obtain a contract to perform R&D.

147. Lockheed Martin and Northrup Grumman, which are military aircraft manufacturers, have both been contractors under the programs challenged by the EC. United Technologies (which owns engine-maker Pratt & Whitney) and General Electric, which supply engines and non-aerospace equipment, had R&D contracts with NASA programs. Goodrich, Honeywell, and Raytheon, which are suppliers to the aerospace industry and other industries, have also had R&D contracts with NASA under these programs. Universities are frequent contractors (as well as cooperative agreement parties and grant awardees) in NASA aeronautics research.

148. As an example of the breadth of participation in NASA R&D contracting, using 1995 as a sample year, the United States has identified the following companies as contractors who had contracts for research into aeronautics topics:¹⁵⁴

Contractor	Business
Advanced Visual Systems	data visualization software
Aspen Systems Inc.	high performance computing systems
Boulder Nonlinear Systems Inc.	high speed liquid crystal components
Caterpillar	heavy machinery, engines, power generation

¹⁵⁴ These companies were among the private parties to the 1995 contracts in the “other aero contracts” value calculation generated in response to Question 175.

Concepts ETI Inc.	turbomachinery
Hittite Microwave Corp.	communications technologies
Hi Z Technology Inc.	thermoelectric modules and generator systems
Hypres Inc.	superconducting electronics
Los Gatos Research	chemical and physical sensor systems (gas analyzers)
Lynntech Inc.	fuel cells
Monterey Technologies Inc.	human factors and human systems integration technologies
PC Krause and Associates	power systems and components
Physical Optics Corp.	opto-electric network technology
Power Computing Solutions Inc.	computer system construction
Power Systems Consultants	power systems, electrical engineering, telecommunications and IT
Qualtech Systems Inc.	system health management, integrated diagnostics and telemaintenance software
Riverside Drives Inc.	power transmission equipment and automated control systems
Satcon Technology Corp.	power electronics and control systems
Sierra Monolithics	communications technologies
Sorbent Technologies Corp.	sorbents, equipment and services for mercury emissions control
Spire Corp.	solar energy manufacturing equipment, optoelectronic components
Srico Inc.	optical networking devices
Ultramet Co.	metalworking components

149. Another measure of the broad dispersal of NASA research is the NASA-developed computational fluid dynamics code, OVERFLOW, which has been disseminated to six NASA centers, 25 other U.S. government laboratories, eight major aerospace companies, 14 other

aerospace companies, one automotive manufacturer, eight computer companies, 71 other companies, and 28 universities.¹⁵⁵

160. *How does NASA determine whether a proposed contribution is "fair and reasonable" (US FWS, para. 234, quoting from Exhibit US-108) compared to the NASA resources to be committed, NASA program risks, and corresponding benefits to NASA in the context of partially-reimbursable, or non-reimbursable, Space Act Agreements?*

150. Under NASA Policy Directive 1050.1H (Exhibit US-108), for Reimbursable SAAs, a cost estimate is performed to ensure that NASA is receiving full reimbursement for its work. For nonreimbursable SAAs, the cost estimate of NASA resources to be committed is used to ensure that the partner's contribution is commensurate with NASA's contribution.

161. *In its FWS, the United States indicated that "non-reimbursable Space Act Agreements are most accurately classified as mechanisms for the government purchase of services in exchange for in-kind remuneration." (US FWS, para. 235) At para. 39 of its RPQ1, the United States acknowledges that goods and services provided under non-reimbursable Space Act Agreements are most accurately characterized as transactions involving the provision of goods and services, and not the purchase of services.*

(a) *Why, in the United States view, is it more accurate to characterize these transactions as involving the "provision of goods or services", as opposed to the "purchase of services"?*

151. Non-reimbursable Space Act Agreements involve a non-monetary exchange between NASA and another entity, which may be governmental, private, or non-profit. Although there is no cash purchase by the government, there is nevertheless a bargained-for exchange, containing a mutuality of obligation by the parties involved. Such agreements consist of the interchange of goods, services, data rights, intellectual property rights, model fabrication and access and test time. As each side provides goods or services to the other, finding a proper characterization under Article 1.1(a)(1)(iii) becomes complicated. For example, if the government and a private party exchange services with each other, both "provision of services" and "purchase of services" could be seen as accurate characterizations of the government's action. (There is no such confusion when the government provides funds in exchange for something of value (as in the challenged procurement contracts and cooperative agreements) or where the government accepts payment of funds in exchange for something of value (as in the challenged reimbursable Space Act Agreements).

152. Article 1.1(a)(1)(iii) provides no guidance with regard to the characterization of an entirely in-kind exchange. In this situation, the United States considers that the best approach is to examine which element of the transaction is predominant. In its first written submission, the

¹⁵⁵ List of OVERLOW Users (Exhibit US-1270).

United States expressed the view that the non-reimbursable Space Act Agreements at issue were best characterized as purchases of services. Upon further review, the United States has concluded that under these Space Act Agreements, NASA and Boeing typically each provided services along with some goods, but the predominant element of the transactions were the services provided by NASA, while Boeing's contributions were more evenly mixed. Therefore, it appears that these transactions would most accurately be characterized as a provision of services.

153. The United States notes that the characterization of non-reimbursable SAAs as purchases or provisions would have no implication for the assessment of benefit under Article 1.1(b) of the SCM Agreement, as the transactions are fair value exchanges negotiated at arms length in either case. However, the characterization does have legal significance under Article 1.1(a)(1)(iii), because some of the non-monetary items that flow from Boeing to the US government are not goods.

(b) *Are reimbursable Space Act Agreements also most accurately characterized as transactions involving the provision, as opposed to the purchase, of goods and services?*

154. Yes. As the United States noted in paragraph 233 of the US FWS, NASA uses reimbursable Space Act Agreements to provide goods and services in exchange for monetary (rather than in-kind) reimbursement from the recipient. The remuneration paid by any user is no less than adequate and, therefore, does not confer a benefit.¹⁵⁶

162. *In its FWS, the United States submits that NASA's provision of wind tunnel services is not specific under Article 2. (US FWS, para. 251) In this regard, the United States asserts that NASA's wind tunnel services are "used by a wide range of industries across the U.S. economic spectrum." Has the United States provided any evidence to support that assertion?*

155. The United States has provided the following evidence:

(1) RAND National Defense Research Institute, *Wind Tunnel and Propulsion Test Facilities* (Exhibit US-116): found that primary users of NASA wind tunnels are aerospace related, but cover a wide range of applications, including spacecraft, launch vehicles, missiles, fixed-wing and rotorcraft (both military and commercial applications, including fighters, transports, business jets, and operating at all speeds, including hypersonic, supersonic and subsonic speeds), as well as engines.¹⁵⁷

¹⁵⁶ US FWS, paras. 241-250.

¹⁵⁷ RAND National Defense Research Institute, *Wind Tunnel and Propulsion Test Facilities*, p. 9 (2004) (Exhibit US-116).

- (2) NASA Langley Research Center, Wind Tunnel Enterprise, *The Enterprise* (Exhibit US-93): wind tunnels are used by “traditional commercial and DoD ground testing community” and being positioned to attract “non-traditional customers e.g., automotive, submersible, recreational, etc.”

156. By way of example, NASA reviewed its usage records for two wind tunnels, the 11-foot Transonic Wind Tunnel and the Transonic Dynamics Tunnel, which show usage by the following entities: Bell Helicopters, General Dynamics, Georgia Institute of Technology, Jet Propulsion Laboratories, Lockheed Martin, the U.S. Navy, NextGen Aeronautics, Northrop Grumman, Orbital Sciences, Sandia, and Sikorsky.

2. Value of payments under NASA R&D contracts and agreements and of goods and services provided by NASA

175. *The Panel requests the United States to provide a breakdown* of the absolute and relative amounts of payments made, and of the value of the goods and services provided, by NASA to Boeing/MD** and to all other contractors, taken together, under the eight NASA R&D programmes in this proceeding. The Panel requests that the United States explain the source and methodology used to calculate these figures.*

157. The United States is submitting Exhibit US-1271, which contains the requested information for the 1989-2006 period.

158. The United States used \$775 million,¹⁵⁸ the figure generated in response to Question 188 as the maximum value of Boeing contracts related to EC-challenged R&D.¹⁵⁹ For the reasons described in that response, the United States believes that this figure overstates the value of LCA-related research conducted under the eight programs.

159. The time available and volume of material did not allow a calculation of the value of contracts involving LCA-related R&D for all other contractors using the same methodology as the United States used to calculate the maximum value of Boeing contracts related to EC-

* The Panel is not requesting that the United States provide copies of all of the contracts and agreements through which payments were made, or goods or services provided, to all contractors under the eight NASA R&D programmes at issue. The scope of this request for information is without prejudice to the Panel's right to seek any additional information that it may consider necessary or appropriate.

** The Panel is not requesting that the United States provide information relating to any payments that were made or goods and services provided by NASA to Boeing through "sub-contracts". The scope of this request for information is without prejudice to the Panel's right to seek any additional information that it may consider necessary or appropriate.

¹⁵⁸ This figure excludes the estimated value of research contracts with Boeing under the ACEE Program, which pre-dates 1989.

¹⁵⁹ There are actually nine programs, but the EC treats ACEE as part of ACT, even though the two were separate programs.

challenged R&D in the response to Question 188. Therefore, to determine Boeing’s share of the total payments made to contractors other than Boeing under the eight programs challenged by the EC, NASA took the following steps:

- (1) NASA queried the NPMS (“NASA Procurement Management System”)/Federal Procurement Data System (“FPDS”) to produce all procurement actions that had been assigned the Product & Service Code (“PSC”) associated with Aeronautics and Space Technology.¹⁶⁰
- (2) NASA filtered the results to eliminate space-related technology based on the inclusion in the description of the contract subject matter of space-related terms like “orbit,” “launch,” “weightlessness,” “satellite,” “Venus,” “Mars,” “ion thruster,” “interstellar,” and “rocket.” NASA personnel spot-checked the results of the computer search to ensure that it properly excluded space-related research.
- (3) NASA added the values of funds obligated to these awards, to produce an estimated value of total funding for aeronautics-related research (abbreviated as “aero” research) awards with entities other than Boeing and its subsidiaries, which is reported in Exhibit US-1271.

This process produced the following total values:¹⁶¹

Other Aero Contracts	\$3,7234 million	50 percent
Other Aero Cooperative Agreements	\$1,523 million	20 percent
Government Aero Agreements ¹⁶²	\$ 469 million	6 percent
Aero Grants	\$ 956 million	13 percent
Total (including Boeing)	\$7,446 million	

Of this total, the maximum value of Boeing contracts related to EC-challenged R&D of \$775 million¹⁶³ accounted for 10 percent. This figure likely overstates the actual Boeing percentage because the numerator is an overestimate and the denominator an underestimate. With regard to the numerator, Question 188 explains why the figure for the maximum value of Boeing LCA-related R&D contracts explains is an overestimate of the actual amount. Most of the elements of the denominator – other aero contracts, aero cooperative agreements, government agreements,

¹⁶⁰ PSC codes are assigned to each NASA contract upon entry of data into the NPMS/FPDS, and characterize the main thrust of the research. The coding system groups aeronautics and space technology research together.

¹⁶¹ See Exhibit US-1271.

¹⁶² Payments to other government agencies to conduct work related to NASA programs.

¹⁶³ This figure excludes the estimated value of research contracts with Boeing under the ACEE Program, which pre-dates 1989.

and grants – cover only aero research contracts identified with the PSC for Aeronautics and Space Technology.¹⁶⁴ Thus, unlike the Question 188 value for Boeing, it does not include contracts with other PSC codes that could involve research challenged by the EC.

160. The United States estimates that the value of goods and services supplied to Boeing under non-reimbursable Space Act Agreements was \$57.7 million and the value under nonreimbursable Space Act Agreements was \$21.9 million.¹⁶⁵

161. NASA's databases and internal information did not allow a valuation of goods and services provided to all other contractors. With regard to Space Act Agreements that might have been used to provide goods and services, the only way to determine with certainty whether an agreement relates to large civil aircraft more generally or to the eight challenged programs in particular is to review the physical copy of the contract. That is simply not possible in light of the hundreds of Space Act Agreements signed with companies other than Boeing. With regard to the EC allegations that NASA facilities and personnel referenced in procurement contracts were separate provisions of personnel and facilities to Boeing, NASA's records do not allow the linking of personnel to contracts in a way that would allow quantification and valuation.

162. Should the Panel feel constrained to perform an estimate, it could use the Boeing share of payments made under contracts, cooperative agreements, grants, and government agreements to estimate the Boeing share of any overall provisions of goods or services that it finds to exist.

176. *In its First Written Submission, the United States observes:*

"The EC's calculation rests on flawed assumptions, including: (1) an overstatement of the amount of NASA aeronautics R&D that is even potentially applicable to production and development of large civil aircraft-as opposed to rotorcraft, general aviation, supersonic and hypersonic aircraft, unmanned vehicles and air traffic management systems; (2) an understatement of the amount of engine-related R&D, which the EC concedes is not a benefit to Boeing; (3) a failure to recognize that, like engine-related research, research directed to other large civil aircraft components produced by U.S. suppliers, and available to both Boeing and Airbus, should be excluded, including aero structures, avionics, and landing gear; and (4) an understatement of the wide range of non-LCA manufacturers that participate in and benefit from the NASA-funded R&D." (US FWS, para. 195)

Please explain precisely how each of these four "flawed assumptions" is manifest in the calculations of the amount of NASA R&D in Exhibit EC-25.

¹⁶⁴ Like the maximum value of Boeing LCA-related R&D contracts calculated for Question 188, this figure likely includes some research funded from sources other than the eight challenged programs.

¹⁶⁵ Exhibit 1256 (revised).

163. Each of the four flawed assumptions is manifest in the calculations in EC-25 as follows:

- (1) *an overstatement of the amount of NASA aeronautics R&D that is even potentially applicable to production and development of large civil aircraft—as opposed to rotorcraft, general aviation, supersonic and hypersonic aircraft, unmanned vehicles and air traffic management systems;*

164. The EC recognizes that not all of NASA’s aeronautics spending conveys a subsidy to Boeing large civil aircraft. It concedes that “advanced air traffic management” and hypersonic flight should be subtracted entirely from aeronautics program spending before attempting to determine how much is attributable to Boeing large civil aircraft.¹⁶⁶ The reasons are clear—air traffic management protects the flying public without regard to the manufacturer of the aircraft and hypersonic flight (Mach 5 and beyond) has no relevance to civil aviation. For example, the EC attempted to subtract the value of advanced air traffic management research from its calculation of the value of the Advanced Subsonic Transport (AST”) program potentially applicable to large civil aircraft.¹⁶⁷ In its calculation of the share of the Research and Technology Base (“R&T Base”) program applicable to large civil aircraft, the EC properly subtracted the value of research into hypersonic aircraft in 1994 and 1995.¹⁶⁸

165. However, the EC’s own calculation sheets reveal that it improperly treated air traffic management research and hypersonic research as subsidies to large civil aircraft. For example, the EC’s first written submission recognized that the Aviation Safety program involved extensive research into air traffic management.¹⁶⁹ Yet, when it came to calculating the value of that program to Boeing, the EC made no subtraction for the value of air traffic management research.¹⁷⁰ The EC also failed to exclude research into air traffic management conducted under the R&T Base program.¹⁷¹ In another example, the source documents cited by the EC show that it treated research into hypersonic aircraft as applicable to civil aeronautics in 1989.¹⁷²

¹⁶⁶ E.g., Exhibit EC-25, p. 10, note 2; p. 11, note 2; and p. 19

¹⁶⁷ Exhibit EC-25, p. 11, note 2.

¹⁶⁸ Exhibit EC-25, p. 19.

¹⁶⁹ Topics mentioned in the EC submission included “Aviation System Monitoring and Modeling,” “System Wide Accident Prevention,” and “Weather Accident Prevention,” all clearly related to air traffic management. EC FWS, paras. 598, 599, and 601.

¹⁷⁰ Exhibit EC-25, p. 15.

¹⁷¹ The EC deleted funds devoted to the Propulsion & Power Research component and the Hypersonics component in 1994-95 from its calculation of the value of the R&T Base Program, along with small amounts that it treated as part of the ACT Program and certain space research and minority preference programs for 1999-2001. Exhibit EC-25, p. 19, notes 2 and 3. That meant that it treated all other components (such as fluid and thermal physics, applied aerodynamics, materials and structures, information sciences, controls and guidance, and flight systems) of the R&T Base Program as being entirely applicable to large civil aircraft. However the source documentation on which the EC relied indicated that many of these components included significant amounts of air

166. The research funding challenged by the EC also pertained to high altitude battery-powered flights,¹⁷³ supersonic flight,¹⁷⁴ general aviation (small aircraft),¹⁷⁵ unmanned aircraft,¹⁷⁶ and solar-powered air vehicles that are no more applicable to large civil aircraft than air traffic management and hypersonic research.¹⁷⁷ However, the EC makes no effort to remove these topics from its estimate of aeronautics research applicable to Boeing.

167. Similarly, the EC explicitly includes in its calculation funds for research into tiltrotor vehicles, a form of rotorcraft, in the AST program.¹⁷⁸ In addition, the R&T Base Program source documents indicate that many of the components that the EC treats as related to large civil aircraft included research into rotorcraft.¹⁷⁹ As the United States explained in its first written submission, the flight of rotorcraft relies on aerodynamic principles completely different from those relevant to large civil aircraft.¹⁸⁰ Even so, the EC continues to include rotorcraft-related R&D funding in its challenge.

168. Thus, the calculations by the EC and the evidence on which it relies shows that the “non-engine aerospace research” that forms the basis for the EC’s calculation of funding to Boeing contains a significant amount of research into topics of no relevance to large civil aircraft.

- (2) *an understatement of the amount of engine-related R&D, which the EC concedes is not a benefit to Boeing;*

traffic management research and engine research. *Examples of air traffic management and safety research under R&T Base Program components that the EC included in its estimate*, Exhibit US-1272, pp. 1-4.

¹⁷² Although the EC properly excluded the hypersonics component of the R&T Base Program, it failed to realize that other components also involved research into hypersonic flight that, under the EC’s own reasoning, should have been deleted. *Examples of hypersonic research under R&T Base Program components that the EC included in its estimate*, Exhibit US-1272, pp. 5-6.

¹⁷³ E.g., Exhibit EC-398, pp. 162/270.

¹⁷⁴ E.g., Exhibit EC-398, pp. 143, 162 & 199/270

¹⁷⁵ E.g., Exhibit EC-398, p. 142, 161, 164 & 194/270.

¹⁷⁶ E.g., Exhibit EC-398, pp. 184 & 200/270.

¹⁷⁷ E.g., Exhibit EC-398, pp. 143, 162, and 198/270.

¹⁷⁸ Exhibit EC-25, p. 11.

¹⁷⁹ The EC did not even attempt to exclude rotorcraft research from its calculation of research supposedly applicable to large civil aircraft. Research into these topics occurred frequently under the R&T Base Program, including an entire separate component related to “Rotorcraft.” *Examples of rotorcraft research under R&T Base Program components that the EC included in its estimate*, Exhibit US-1272, pp. 8-9.

¹⁸⁰ US FWS, para. 160. Materials submitted by the EC’s consultants, CRA, provide further evidence that rotorcraft research is not relevant to large civil aircraft. See U.S. response to Question 208(e).

169. The EC has conceded that engine research has no bearing on this dispute.¹⁸¹ Yet, even though it makes simplistic efforts to subtract engine research from some programs,¹⁸² it leaves a large volume of engine-related research in its calculation of the amounts that it alleges are applicable to large civil aircraft. Exhibit US-1272 shows that components of the R&T Base Program that the EC included in its estimate involved engine-related research that the EC admits should be removed.¹⁸³ The consistent failure to exclude all engine research from the amounts attributed to Boeing invalidates the EC calculations.

- (3) *a failure to recognize that, like engine-related research, research directed to other large civil aircraft components produced by U.S. suppliers, and available to both Boeing and Airbus, should be excluded, including aero structures, avionics, and landing gear; and*

170. U.S. civil aeronautics firms that are NASA contractors sell to a wide variety of customers, including Boeing, Airbus, and producers of other types of civil and military aircraft in the United States and other countries.¹⁸⁴ As the United States explains in its response to Question 136, there is no basis to presume that participation by unrelated suppliers in NASA R&D confers a commercial advantage to Boeing. In fact, as the U.S. response to Question 137 explains in greater detail, the Appellate Body has found that such a presumption is inconsistent with the SCM Agreement. However, that is just what the EC calculation does.

171. As the response to item (4) explains, the EC derived the value of NASA R&D program funds to Boeing by allocating to the company a share of NASA non-engine research equal to the ratio of Boeing's share of sales of finished non-military aircraft and parts used to produce such aircraft. This allocation, however, ignores that the price of a completed aircraft includes the cost of its components. Thus, the EC allocation methodology treats R&D activities related to components produced by unrelated suppliers as benefits to Boeing. And, it does this without performing the pass-through analysis that would be necessary if such funding were found to be a financial contribution conferring a benefit on the unrelated supplier.

172. A numerical example illuminates the problem. Suppose that NASA spent \$15 million on non-engine aeronautics R&D in a given year, and that during that time, Boeing had \$110 million in sales of completed aircraft. Suppose that other U.S. companies sold civil aircraft parts worth \$40 million to Boeing.¹⁸⁵ That would mean total civil aerospace sales of \$150 million. The

¹⁸¹ EC FWS, para. 77; *e.g.*, Exhibit EC-25, p. 10, note 2; p. 11, note 2; p. 16, note 2, p. 17, note 2; and p. 19.

¹⁸² Exhibit EC-25, pp. 9, note 1; 10, note 2; 11, note 2; 16, note 2; p. 17, note 2; and p. 19.

¹⁸³ *Examples of engine research under R&T Base Program components that the EC included in its estimate*, Exhibit US-1272, p. 7.

¹⁸⁴ US FWS, para. 207; US SWS, paras. 64 and 69.

¹⁸⁵ For simplicity, assume that those companies sold only to Boeing.

EC's methodology would assume that NASA divided its research spending based on Boeing's share of those sales, which would assume that \$11 million of the NASA R&D program was paid to Boeing and \$4 million to suppliers. Thus, the \$40 million in components would be allocated to NASA R&D funding twice – once in the form of funds allocated to the components sold to Boeing, and once more as part of the value of those parts as included in the finished aircraft.

- (4) *an understatement of the wide range of non-LCA manufacturers that participate in and benefit from the NASA-funded R&D.*

173. To identify the amount of research spending that supposedly went to Boeing, the EC took its miscalculated value for non-engine aeronautics research, and divided that by total sales in the United States of non-military complete aircraft and parts.¹⁸⁶ Although the EC never explains this methodology, the calculation appears to assume that NASA directed its non-engine aeronautics research dollars to companies in proportion to their share of U.S. sales of non-military complete aircraft and parts each year. The corollary of this assumption is that other entities – those that did not produce complete civil aircraft or parts – did not participate in NASA research. It is clear that other entities – universities, research institutions, non-civil aeronautics firms (*e.g.*, Lockheed Martin), unrelated suppliers (*e.g.*, Honeywell), and even space firms (*e.g.*, Orbital Science Corp.) – did participate in NASA-funded aeronautics R&D.¹⁸⁷ Therefore, the EC methodology understates the role of all of these groups of entities that do not manufacture large civil aircraft and, accordingly, overstates the amount of funding related to Boeing. (The data on absolute and relative payments to Boeing demonstrate how wrong the EC is.) The U.S. response to Question 159 provides further examples of the breadth of contracting under the NASA R&D programs challenged by the EC and of the broad spread of NASA research.

177. *How does the United States respond to the contention of the European Communities (EC SWS, para. 372) that "the United States offers absolutely no evidence in support of its assertion that the funding to entities other than Boeing is worth \$6.48billion"?*

174. The EC's contention is wrong. In its first written submission, the United States noted that the EC asserted that \$7.3 billion of the program budgets of nine NASA programs was a grant to Boeing.¹⁸⁸ The United States also noted that contracts to Boeing amounted to \$715 million.¹⁸⁹

¹⁸⁶ The calculations explained the amounts allocated to Boeing for the ACT, HSR, AST, HPCC, Aviation Safety, QAT, VSP, and R&T Base programs as based on the "Boeing/MD LCA Allocation Charts," referenced only as "Exhibit to EC FWS". (This material appears to be in Exhibit EC-18.) Exhibit EC-25, p. 9, note 3; p. 10, note 3; p. 11, note 4; p. 12, note 3; p. 15, note 3; p. 16, note 3; p. 17, note 3; and p. 18, note 2. Exhibit EC-18 explains its calculation of total US civil aircraft parts and sales as derived from "US Aircraft Sales Statistics," also cited only as "Exhibit to EC FWS." (This material appears to be in Exhibit EC-49.) Exhibit EC-49 reports the figures that correspond to the EC data as "Non-Mil. complete aircraft and parts." Exhibit EC-49.

¹⁸⁷ US FWS, para. 193; QAT Total Budget and VSP Total Budget (Exhibit US-1255).

¹⁸⁸ US FWS, para. 212.

¹⁸⁹ US FWS, para. 212.

The difference between what the EC alleges as a payment to Boeing, and the estimated value of what NASA actually paid Boeing is \$6.58 billion.¹⁹⁰ The EC's own materials – on which it claimed to have relied – showed that program budgets covered only direct research costs and excluded the costs associated with civil service workforce and basic operations.¹⁹¹ Thus, it was reasonable for the United States to conclude that any share of program budgets that the EC claimed as payments to Boeing in excess of the amount NASA actually paid the company must have been paid to entities other than Boeing.

175. In fact, the information gathered in response to Question 175 shows that NASA's contracts, cooperative agreements, grants, and government agreements with other entities for the 1989-2006 period had a total value of \$6.67 billion.¹⁹²

178. *Can the United States indicate whether or not there is information in the public domain on the absolute and relative amounts of funding received by individual contractors under the NASA R&D programmes challenged by the European Communities? To what extent, if any, are the NASA annual procurement reports a relevant source of information in this regard?*

176. The published NASA Annual Procurement Reports report the total amounts awarded by all NASA funding sources to the largest NASA contractors, including Boeing.¹⁹³ However, NASA does not publish information on the absolute and relative amounts of funding received by individual contractors for aeronautics research only, or for the subset of aeronautics research represented by the NASA R&D programs challenged by the EC. NASA has no accounting or legal rules requiring publication of the type of data described in this question, so there is no pre-existing, historical body of information to reference.

177. The Annual Procurement Reports cover all forms of procurement by NASA. As such, they provide a good idea of relative amounts of contracting under all programs, including space exploration. As the United States has noted, since Boeing supplies both goods and services for NASA's space exploration activities, and only services in the aeronautics research field, its share of total contracting is likely to be higher than its share of aeronautics research contracting.

179. *At para. 212 of its FWS and in Exhibit US-1202, the United States has provided data on the amount of payments made to Boeing/MD pursuant to Procurement Contracts and*

¹⁹⁰ The \$6.48 billion figure referenced in the US FWS was apparently a typographical error.

¹⁹¹ Fiscal Year 2004 Budget Estimates, p. S&AP2-2 (“NASA's program/project budgets have historically only captured direct R&D costs including supporting costs called program support. The Agency costs for both direct and indirect civil service workforce and travel dollars . . . and other institutional infrastructure costs such as Research Operations Support . . . have not been included.”) (Exhibit EC-315).

¹⁹² Exhibit US-1271.

¹⁹³ E.g., NASA Annual Procurement Report, FY 1991-FY 2004, “One Hundred Principal Contractors” (Exhibit EC-341).

Cooperative Agreements under each of the NASA R&D programmes challenged by the European Communities. According to these data, the total amount of such payments was less than \$750 million. In light of the response of the United States to Question 7, the Panel understands that the United States obtained these data as follows:

- *First, the United States identified the relevant contracts and cooperative agreements on the basis of information contained in the Federal Procurement Data Base (or, since 2005, the Federal Procurement Data Base – Next Generation).*
 - *Second, the United States identified the amounts disbursed under each contract on the basis of data contained in NASA's Procurement Management System (for the years prior to 2005) or in NASA's "internal financial records" (for the years 2005-2006).*
 - *Third, with respect to the ACEE programme, for which no disbursement data exists in the Federal Procurement Data Base or in NASA's Procurement Management System, the United States used an estimate based on Boeing/MD's share of payments made under the ACT programme.*
- (a) *Is this a correct understanding of the methodology used by the United States to derive the figures reported in para. 212 of its FWS and in Exhibit US-1202?*

178. This basic outline is generally correct. The response to subquestion (b) provides more detail on these calculations.

- (b) *Please provide more details on the following aspects of the calculation of these figures:*
- *the list obtained from the Federal Procurement Data Base of all awards made to Boeing/MD for the years 1989-2006*

179. The list obtained from the FPDS and FPDS-NG was the set of all NASA procurement actions involving Boeing, McDonnell Douglas, and their subsidiaries. As the FPDS and FPDS-NG contain entries for individual purchase orders and task orders issued under a contract, the FPDS and FPDS-NG contain thousand of entries for such awards. NASA did not print this list, but used it as the basis for additional steps to weed out instruments not related to the EC's claims.

- *the awards that were determined not to pertain to any NASA aeronautics programmes*

180. NASA took several steps to eliminate awards that did not pertain to NASA aeronautics programs. The first, and most important step, was to identify awards issued by NASA

aeronautics centers. By way of background, NASA conducts all of its research activities at nine research centers located in different parts of the United States. Four of those centers – Langley Research Center, Glenn Research Center (formerly known as Lewis), Ames Research Center, and Dryden Research Center are responsible for all aeronautics research conducted by NASA. They administered the eight research programs challenged by the EC, and also perform all aeronautics research required in support of NASA’s other programs. Each center awards its own contracts for work performed in support of its projects. The FPDS record for each award contains a code indicating the center that awarded the instrument in question. Therefore, NASA filtered the FPDS all Boeing contracts list to remove all contracts awarded by the five centers that do not perform aeronautics research – Goddard Space Flight Center, Johnson Space Center, Kennedy Space Center, Marshall Space Flight Center and Stennis Space Center. (These five centers perform primarily research on space exploration development, space operations, and space research, including space science.¹⁹⁴)

181. NASA also filtered the list to account for the fact that the four aeronautics centers also conduct some non-aeronautics research, and awarded contracts to Boeing to perform some of that research. To give some examples, Glenn Research Center specializes in propulsion research, including research on rocket engines. Ames Research Center specializes in electronics research, including research on computing for space vehicles, guidance, and exploration. Dryden Research Center performs flight testing, including testing of space vehicles and hypersonic vehicles. Langley Research Center performs aeronautics and atmospheric research, including research on the space shuttle and atmospheres of other planets. The United States also sought to exclude research into propulsion, which is not subject to the EC claims. NASA filtered out contracts related to space exploration and other topics unrelated to civil aviation based on the FPDS and FPDS-NG fields that described the subject matter of each contract. The United States omitted contracts identified as related to space, atmospheric science, airspace (including air traffic management), hypersonics, vertical take-off & landing and short takeoff & landing (“VTOL/STOL”), and aircraft support (related to the maintenance and upkeep of NASA’s research aircraft).

182. The United States notes that after it obtained a total amount for all contracts identified as relevant through these steps, it consulted budgeting data, which indicated that some of the disbursements pursuant to contracts funded through the HSR and VSP programs were used for non-aeronautics purposes. In line with these data, the United States subtracted \$70 million from the value of contracts under the HSR Program and \$14 million from the value of contracts under the VSP Program.¹⁹⁵

- *the accumulation of the awards made to Boeing/MD into the programme groupings identified by the European Communities*

¹⁹⁴ Descriptions of NASA Space Flight and Space Centers (Exhibit US-1303).

¹⁹⁵ US RPQ1, para. 16.

183. The FPDS, FPDS-NG, and NPMS (the disbursement database consulted by NASA) do not contain data indicating the program or programs that provided the funding for particular awards. Question 7 sought information regarding the figures reported in paragraph 212 of the US FWS. To provide that information, NASA consulted its own physical and electronic records, including the SAP/BW, a financial management system that contains data on source of funding. NASA also asked personnel who worked on the eight research programs challenged by the EC to identify funding sources where SAP/BW data were incomplete. The United States submitted the results of that effort as Exhibit US-1202. Where the information in the SAP/BW indicated funding for a contract from multiple sources, NASA included the contract under each funding program, along with the amount funded through that program.

- *the identification of amounts disbursed under each relevant award on the basis of data contained in NASA's Procurement Management System or NASA's internal financial records*

184. The NPMS is a NASA legacy system, discontinued after 2004, that NASA used to accumulate data for reporting to the FPDS. The FPDS contains only data on the amounts “obligated” for funding a particular contract. (In U.S. procurement terminology, “obligated” means that budgeted funds have been provided to a prime contract for costs to be expended in the performance of that contract.¹⁹⁶) In addition to these figures, the NPMS also records the amounts actually disbursed, which NASA used for all disbursements prior to 2005. For disbursements in 2005 and 2006, NASA used data from the SAP/BW system.

180. *Are the data in Exhibits US-1245 and US-1255 also based on the methodology described by the United States in its response to Panel Question 7?*

185. Exhibit US-1245 is based on the methodology described in the response to Panel Question 7. Exhibit US-1245 also references a small number of instruments that were determined to be unrelated to the EC challenges to non-engine aeronautics research, but were mistakenly left in the group of contracts submitted in support of the US FWS.

186. Exhibit US-1255 showed the division of funds under two representative research programs. As noted in the response to Question 179, the FPDS, FPDS-NG, and NPMS do not contain data linking contracts (or other instruments) to individual NASA research programs. Therefore, to assemble data on all contracts related to the QAT and VSP programs, NASA used the SAP/BW database. The database was queried using program identification numbers that corresponded to the QAT and VSP programs. The results showed funding from those programs going to Boeing and McDonnell Douglas as well as program funding directed to contractors other than Boeing and McDonnell Douglas, universities, personnel costs, program support and facilities, and undisbursed budget.

¹⁹⁶ Obligated funds are not disbursed to the contractor until the contractor has demonstrated an entitlement to payment.

181. *Is the explanation provided in response to Question 7 consistent with the explanation at para. 76 of the US SWS, which refers to NASA files and makes no mention of the Federal Government Procurement Data Base?*

187. Yes, the two descriptions are consistent, although they focus on different aspects of the process. Paragraph 76 of the US SWS provided a summary explanation to address the EC's broad (and unsubstantiated) assertions that NASA's responses were unreliable. The second sentence of that paragraph explains in a general way that NASA consulted its paper files and also inquired with knowledgeable personnel. In line with the summary nature of the paragraph, the third sentence refers generically to NASA's contract disbursements database without mentioning it by name. Question 7 inquired how the United States derived the \$750 million value for all NASA contracts with Boeing under the programs challenged by the EC. Accordingly, the response focused on the Federal Procurement Data Base ("FPDS"), which provided the source for monetary values, and the NASA Procurement Management System ("NPMS"), which provided greater detail on the FPDS data for the pre-2005 period. For the VSP and HSR programs, NASA was aware that some funding for some of the contracts came from programs other than the eight programs challenged by the EC. To make sure that the reported figure reflected only the programs at issue, NASA followed the process described in the response to question 179. Paragraphs 11-14 of the response to Question 7 detailed how the NASA databases informed the process described in paragraph 76 of the US SWS.

182. *Can the United States explain the meaning of the term "NASA's records" and "NASA records" as used in para. 198, footnote 277, para. 201 and para. 212 of the US FWS and in para. 76 of the US SWS? Can the United States also explain the meaning of "NASA's databases" in paras. 3 and 6 of US RPQ1? Are these NASA records and NASA databases different from the NASA Procurement Management System mentioned at paragraph 11 of US RPQ1? What is meant by the "contract disbursement database" referred to in para. 76 of the US SWS?*

188. As used in the U.S. submissions, "NASA's records" refers to physical and electronic materials maintained by NASA, and includes the agency's formal paper files, any databases, and any other electronic files. In the segments referenced in this question, the particular records consulted were as follows:

- US FWS, para. 198: "NASA records" was intended to be a generic term used to describe the procurement and financial records, physical and electronic, that NASA has used to determine disbursements.
- US FWS, footnote 277: "NASA's records" refers to appropriated NASA budgets.
- US FWS, para. 201: "NASA's records" refers to the paper copies of Space Act Agreements maintained by NASA. See the U.S. response to Question 183.

- US FWS, para. 212: “NASA records” was intended to be a generic term used to describe the procurement and financial records, physical and electronic, that NASA has used to determine disbursements.
- US SWS, para. 76: “NASA first consulted its records” was intended to be a generic term used to describe the procurement and financial records, physical and electronic, that NASA has used to determine disbursements.
- US RPQ1, para. 3: “NASA’s databases” was intended to be a generic term used to describe the procurement and financial records, physical and electronic, that NASA has used to determine disbursements.
- US RPQ1, para 6: “NASA’s databases” was intended to be a generic term used to describe the procurement and financial records, physical and electronic, that NASA has used to determine disbursements.
- US RPQ1, para. 11: The Federal Procurement Database System (FPDS) and the NASA Procurement Management system (NPMS) are included, in general, when the term NASA records and NASA databases are used.
- US SWS, para. 76: “contract disbursement database” referred to the NPMS. For completeness, that paragraph should also have mentioned the NASA internal financial records used to calculate disbursements for 2005 and 2006.
- In paragraph 76 of the US SWS, the NASA records in question referred generally to records of all kinds maintained by the agency, making the point that the EC had not (and still has not) provided any reason to question the accuracy of NASA’s records with regard to the data they were designed to maintain.¹⁹⁷

189. “NASA databases” refers collectively to any of the databases that NASA maintains to perform its function. The FPDS, FPDS-NG, NPMS, and SAP/BW are such databases. The NASA Technical Reports Server is another database, one that contains NASA reports available to the public. The United States used “records” as a broader term than “databases,” to capture the fact that NASA used paper files and other electronic files as necessary to make sure it properly calculated the disbursements associated with each program.

¹⁹⁷ The EC’s only criticism to date is that NASA’s disbursements database is not organized to permit a reconciliation with the budgeting data on which the EC based its allegations. That is not an inaccuracy in the databases. In fact, each does accurately what it was intended to do. The disbursements system makes certain that NASA pays no more than the amount needed to pay for the services supplied or goods delivered. The U.S. Government Accountability Office studied NASA disbursements, and found that its systems perform this task well. General Accounting Office, Report GAO-02-642R NASA Contract Payments (“NASA Contract Payments Report”) (Exhibit US-1273). The budgeting system makes certain that NASA spends no more than Congress has authorized it to spend for individual projects. As long as both systems do their job (as they do) a reconciliation is unnecessary.

183. *Please describe the methodology used to develop the list of Space Act Agreements in Exhibit US-74 and the value of NASA facilities, equipment and employees under Selected Space Act Agreements in Exhibit US-1256.*

190. The information reported in Exhibit US-74 was obtained by searching NASA's physical and electronic records to identify Boeing and McDonnell Douglas Space Act Agreements, and then taking the relevant information from the hard copy documents. At that time, NASA did not seek to determine which program funded the SAAs. The value of NASA facilities, equipment and employees provided in Exhibit US-1256 was based on Estimated Price Reports contained either in the physical files related to an agreement or from NASA's TechTrackS system, which includes data on the estimated price reports for Space Act Agreements. NASA brought the TechTrackS system on line in 1993, so any estimated price reports before that date are not electronically accessible. TechTrackS also contains data on funding sources, which allowed NASA to remove from the Exhibit US-1256 list any Space Act Agreements that were funded by programs other than the eight challenged by the EC.

184. *Please comment on: (i) the European Communities' observation concerning NASA contracts at para. 8 (including footnote 12) of its Comments on US RPQ1; and (ii) the European Communities' observation made at para. 14 of its Comments on US RPQ1. (The Panel is aware that certain of the contracts cited in para. 8 of the EC's Comments on US RPQ1 appeared in exhibit US-1245 submitted on 10 January 2008, but not others.)*

191. Paragraph 8 of the EC Comments on US RPQ1 refers to the following contracts that, in the EC view, were omitted from the tabulation in Exhibit US-1202:

- **Contract NAS1-20553:** This contract was included in Exhibits US-1202, but was mislabeled as NAS1-20550. The EC lists the total value as \$22 million. That was, indeed, the amount initially awarded. The disbursements data indicates that NASA only disbursed \$1.8 million pursuant to this contract.
- **Contracts NAS1-18954, NAS1-19349 and NAS 3-25965:** These contracts were apparently missed in the initial analysis. Disbursements for these contracts were:

NAS1-18954	\$1,020,253
NAS1-19349	\$8,293,610
NAS3-25965	\$5,917,745

The EC values these contracts at \$41 million based on their expected value at the time of the award. However, like many of the NASA contracts at issue, NASA terminated work under these contracts before it reached the full projected value.

These contracts were captured in the calculation of the maximum value of Boeing contracts related to EC-challenged R&D in response to Question 188.

192. Paragraph 14 of the EC Comments on US RPQ1 refers to two Space Act Agreements, SAA2-401068 and SAA2-401072 (Exhibits EC-1314, and EC-1315). These instruments were apparently missed during the initial search for SAAs. Both were signed before 1993, so that data on estimated price report is not available through the TechTrackS system.¹⁹⁸

185. *At the second meeting of the Panel the United States indicated that NASA was in the process of seeking information on valuation of the Space Act Agreements. Has that process now been completed?*

193. NASA has completed its search of information on Space Act Agreements and their valuation, and identified two additional Space Act Agreements that should be included. In addition, Exhibit US-1256 as initially submitted included two cooperative agreements that are not Space Act Agreements. The United States has made the additions, and deleted the cooperative agreements. A complete and final version of this table is being submitted as Exhibit US-1256(revised).

186. *In its comments on the response of the United States to Questions 6-8, the European Communities asserts that the estimates provided by the United States are "flawed, unsubstantiated and unreliable for several reasons". (EC Comments on US RPQ1, para. 3) Please provide a detailed response to the arguments made by the European Communities in this regard.*

194. NASA's estimates are fully substantiated by the output of NASA databases and the voluminous documentation submitted by the United States. They are fully reliable in that they are derived from the data on which the U.S. government and the U.S. Congress rely in making and evaluating spending decisions. As for flaws, they were inevitable in light of the complexity of the issues, the vast period of time covered by the EC allegations, the limitation of NASA data systems that were not set up to respond to claims like those framed by the EC, and the short time available to compile the data provided in the first written submission. The United States recalls that the Panel does not have to quantify alleged subsidies precisely in a claim under Articles 5 and 6.3.¹⁹⁹ The key point is that after having more than two years to prepare its case and another

¹⁹⁸ See U.S. responses to Question 183.

¹⁹⁹ *US – Upland Cotton (AB)*, para. 467:

{R}eading Article 6.3(c) in the context of Article 6.8 and Annex V suggests that a panel should have regard to the magnitude of the challenged subsidy and its relationship to prices of the product in the relevant market when analyzing whether the effect of a subsidy is significant price suppression. In many cases, it may be difficult to decide this question in the absence of such an assessment. Nevertheless, this does not mean that Article 6.3(c) imposes an obligation on panels to quantify precisely the amount of a subsidy benefiting the product at issue in every case.

year to gather evidence for the Panel, the EC has not identified anything that would change the conclusion that the EC's \$10.4 billion dollar estimate of the value of alleged subsidies has greatly overstated the value of NASA's payments to Boeing for research related to civil aeronautics.

195. Nonetheless, the EC advances several arguments to attempt to cast doubt on NASA's figures. All are invalid. The United States will address each argument in the order presented in the EC Comments on US RPQ1.

196. **Completeness.** The EC asserts that the United States failed to properly identify and submit "all LCA-related NASA . . . contracts with Boeing/MD" and omitted certain contracts identified by the EC from its estimates.²⁰⁰ However, the EC has not challenged "all LCA-related contracts." It has challenged a set of named NASA programs and presented arguments and evidence only with regard to those programs. As the EC has not even attempted to establish that *other* programs were subsidies or caused adverse effects, there is no basis to consider the omission of a document that the EC considers an "LCA-related contract" as evidence of the reliability of the estimate of funding under the eight challenged programs.

197. The EC also asserts that the United States "provided no confidence" that it fully accounted for all of the funds disbursed to Boeing under the eight challenged NASA programs.²⁰¹ The EC begins its discussion with pronouncements as to what the United States cannot do to meet its burden of proof, and what the United States must do to meet its burden of proof. It does not explain how it reached these conclusions regarding the evidentiary burden on a responding party, or provide any basis for the Panel to adopt those standards as its own. There is, in fact, no support for the EC view. While a responding party *could* meet its burden of proof by following the path described by the EC, nothing in the DSU or SCM Agreement requires a party to proceed in that manner, or precludes a party from adopting a different approach. Thus, the EC's preference for an approach different from NASA's is irrelevant to the Panel's evaluation of whether the United States has met its burden of proof.²⁰²

198. The EC also attempts to direct specific criticisms at the U.S. explanation of how NASA derived the figures reported in paragraph 212 of the US FWS and Exhibit US-1202. None are valid. The first criticism is that the explanation is "unsupported." This is incorrect. The explanation is supported by the written descriptions in the U.S. submissions. Since the work conducted by NASA was conceived and planned specifically to address a question that NASA is not normally called upon to answer, there are no preexisting guidelines, rules, or regulations that

²⁰⁰ EC Comments on US RPQ1, para. 3.

²⁰¹ The bullet refers to "eight" programs. EC Comments on US RPQ1, para. 5, first bullet. It is our understanding that the EC has challenged *nine* programs – ACEE, ACT, HSR, AST, HPCC, Aviation Safety, QAT, VSP, and R&T Base. Exhibit EC-25, p. 2. Our response covers all of them.

²⁰² The Panel should note that the EC's view of the amount and type of evidence necessary to rebut a claim of subsidization was markedly different when it was the respondent in another dispute involving large civil aircraft.

document the process.²⁰³ The EC also complains that the explanation did not include search criteria or search results. It fails to appreciate that the United States did provide that information. Search criteria were first to identify awards to Boeing,²⁰⁴ and then to identify disbursements pursuant to those awards that were related to the programs challenged by the EC.²⁰⁵ The results appear in paragraph 212 of the US FWS and Exhibit US-1202.

199. The EC also accuses the U.S. explanation of containing “ambiguities” in the form of statements that the United States submitted all of the relevant contracts that it could make available, and explaining the key reasons why some contracts were unavailable – that some older documents were no longer in files, and that there was no time to review some of the newer documents.²⁰⁶ However, there is no “ambiguity” in that explanation. It reveals that some of the contracts were not submitted. Exhibit US-1202, cited later in response to the same question, indicates exactly which contracts those were. That exhibit shows that the unavailable contracts pertained primarily to programs either early in the period covered by the EC allegations or late in that period, in line with the U.S. explanations. The EC also finds “ambiguity” in the U.S. explanation that it reduced the value of disbursements to Boeing under contracts *connected* with the HSR and VSP programs to account for the fact that part of the disbursements under those contracts was paid using funds from non-aeronautics programs.²⁰⁷ Again, there is no “ambiguity.” Work under some contracts was performed and funded pursuant to multiple programs, some of which were not challenged by the EC. The United States did not count disbursements pursuant to non-challenged programs in its calculation of disbursements under challenged programs. Since the EC has made subsidy allegations only with regard to the eight named aeronautics programs, this is the only means to determine accurately how much NASA actually disbursed under those programs.

200. In paragraph 8, the EC notes that the U.S. calculation of amounts NASA paid to Boeing excludes certain contracts that the EC submitted in the EC FWS. The United States addressed these contracts in its responses to question 184. As we noted, one was included but mislabeled. Three were not captured in initial searches. In response to Question 188, NASA conducted an additional verification exercise to determine whether there were additional awards that might meet the criteria identified by the EC. That search indicated that the maximum possible value of Boeing LCA-Related R&D contracts was \$841 million.²⁰⁸ As explained in the U.S. response to

²⁰³ It is noteworthy that the EC felt no need to “support” its description of its own calculations with anything other than the very cursory descriptions in its written submissions. *E.g.*, Exhibit EC-25, p. 10.

²⁰⁴ US RPQ1, para. 14.

²⁰⁵ US RPQ1, para. 15.

²⁰⁶ EC Comments on US RPQ1, para. 7, referencing US RPQ1, para. 6.

²⁰⁷ EC Comments on US RPQ1, para. 7, referencing US RPQ1, para. 16.

²⁰⁸ This \$841 million includes the \$66 million estimated value of research contracts under the ACEE Program.

Question 188, this number is certainly an overstatement. However, it demonstrates that at the maximum, there was no significant omission of research contracts.

201. In paragraph 9, the EC selectively quotes an evaluation by the U.S. Government Accountability Office (“GAO”) concluding that NASA’s “financial management system” does not “produce credible cost estimates,²⁰⁹ oversee contractors and their financial and program performance, control program costs, and produce timely, reliable financial information and auditable annual financial statements.”²¹⁰ What the EC fails to realize is that the United States did not rely on the “financial management system” to produce the data provided to the Panel. That data came specifically from *disbursement and obligation* databases. While the financial management system *uses* data output from these databases, the GAO did not criticize those data, or the system’s reliance on those data. In fact, when the GAO independently investigated NASA’s disbursements practices, it found that NASA had “properly designed” controls “to prevent and detect payment errors.” It found further that the only error detected in a sample of 110 contracts was both “insignificant” and “corrected promptly.”²¹¹ Thus, the disbursements data on which NASA relied warrant a high level of confidence.

202. If the GAO report cited by the EC proves anything, it is that NASA does not have a single system that links disbursements under particular contracts or particular contractors to the aggregate program-level information the agency publishes each year. In this environment, NASA’s decision to rely on its disbursements records is clearly the most accurate way to value funds paid to Boeing to perform R&D services under the programs challenged by the EC.

203. The GAO report cited by the EC also does not support the EC’s conclusion that “any data taken from NASA’s financial databases is unreliable for purposes of estimating the value of NASA’s R&D subsidies to Boeing.”²¹² What the EC fails to recognize is that *those are the very data on which the EC asks the panel to rely*. The published reports on overall NASA expenditures under the challenged programs, which the EC manipulates to produce its inflated estimate, are generated from NASA’s financial databases. Thus, it is not a question of whether information from NASA systems is usable or reliable. Data from NASA are the only information available, and both parties propose using them. The questions for the Panel are (1) whether particular data put forward by the parties are reliable, and (2) whether the methods used by a party to estimate payments based on those data meet the burden of proof. The GAO reports indicate that the NASA disbursements on which NASA based its own estimate is more reliable

²⁰⁹ Cost estimates are calculations performed *before* signature of a contract to forecast how much the government will have to pay to complete the work.

²¹⁰ EC Comments on US RPQ1, para. 9, quoting *National Aeronautics and Space Administration: Longstanding Financial Management Challenges Threaten the Agency’s Ability to Manage Its Programs*, GAO-06-216T, p. 2-3 (Oct. 27, 2005) (Exhibit EC-1313).

²¹¹ General Accounting Office, Report GAO-02-642R NASA Contract Payments, p. 2 (Exhibit US-1273).

²¹² EC Comments on US RPQ1, para. 9.

for this purpose than the data chosen by the EC. The United States has explained elsewhere why the methodology used by the EC to estimate payments to Boeing is unreliable.

204. **NASA aeronautics research funds not disbursed to Boeing.** The EC contends that a “reasonable explanation of what happened to the rest of the money under the eight NASA R&D programs” is “glaringly absent from the United States’ submissions.” The US FWS states quite plainly that:

{t}he remainder of the ‘program budget’ that the EC treats as a grant to Boeing – \$6.48 billion – is funding provided to *other* NASA contractors and grantees to conduct research under these programs, as well as the direct costs of the R&D done in-house by NASA and the ‘program support’ costs that NASA incurs under each such program.²¹³

In addition, the US FWS provided a list of more than 100 entities that participated in the eight challenged programs, including universities, independent research entities, customers outside of the civil aeronautics industry, Boeing competitors outside the civil aeronautics industry, and groups representing civil society.²¹⁴ The very evidence submitted by the EC showed that the large majority of NASA’s overall contract spending went to companies other Boeing,²¹⁵ and the United States explained why payments to Boeing were likely to be an even smaller share of spending on non-engine aeronautics R&D.²¹⁶ At the second panel meeting, the United States presented data on two representative research programs – QAT and VSP – showing that NASA program funds not paid for R&D services by Boeing and McDonnell Douglas in fact went to other contractors (including Swales & Assocs., QSS, Inc., Raytheon, Lockheed Martin, Orbital Science Corp., and Arcata Technologies), personnel costs, program support and facilities, universities, and other government agencies.²¹⁷ This is, by any standard, a reasonable explanation of “what happened to the rest of the money.”

205. In addition, in response to Question 175, NASA queried the FPDS/NPMS and FPDS-NG to identify and value awards to other entities to perform aeronautics research. That exercise indicated a value of \$6.67 billion²¹⁸ – quite close to the initial estimate.

²¹³ US FWS, para. 198. The U.S. response to Question 177 discusses this issue in greater detail.

²¹⁴ US FWS, para. 193. *See also* US FWS, paras. 207-208 and 226.

²¹⁵ Exhibit EC-341, Exhibit US-1334.

²¹⁶ US SWS, para. 74.

²¹⁷ Exhibit US-1255. The United States notes that these data were compiled after NASA switched to full-cost accounting of program costs. Therefore, the program funds included civil service that, under the previous accounting regime, were not included.

²¹⁸ Exhibit US-1271.

206. **Coverage of goods and services.** The EC raises a number of arguments related to its claim that NASA provided goods and services to Boeing free of charge. It begins, in paragraph 11, by criticizing the United States for including in its estimate only disbursements, and not the value of goods and services allegedly provided to Boeing. This criticism addresses an argument that the United States never made. The U.S. estimate never purported to represent anything other than “payments”²¹⁹ disbursed to Boeing. The EC also criticizes the United States for not providing a separate “tabulation” of the value of the goods and services. This is not correct. Exhibit US-74 contained a list of Space Act Agreements, including a list of the goods and services supplied by NASA and values of NASA’s contribution, where those data were available at the time. With regard to other “provisions” alleged by the EC, the United States demonstrated that these were not provisions of goods or services within the meaning of Article 1.1(a)(1)(iii).²²⁰

207. The EC next specifies in paragraph 11 that its provision of goods and services claim with respect to NASA encompasses (1) goods and services allegedly provided through contracts; (2) goods and services allegedly provided under Space Act Agreements; and (3) “in-house NASA funds . . . for the benefit of NASA contracts.” The EC does not provide any further detail with regard to goods and services allegedly provided in relation to contracts for R&D services. However, because the contractor merely uses any such goods and services to provide services back to the government, the government action is providing those goods and services to itself, and not to the contractor.²²¹ The goods and services are those needed to perform the contracted R&D services. In some cases, the item was not otherwise available, while in others, the provision was a matter of government convenience. For example, under a modification to Contract NAS1-20342, NASA agreed to let contractor employees use NASA office space during performance of the contract, including the use of office furniture, first aid treatment while on NASA property, use of the NASA cafeteria, and assistance in moving large equipment.²²² In all cases, if NASA had not made its own facilities available, it would have to pay the contractor’s cost either of using its own facilities or of obtaining the facilities, as NASA’s contracts with Boeing were cost-reimbursement contracts.

208. The EC also provides no support for its assertion that NASA spends “in-house funds” to benefit contractors. The United States has explained and demonstrated that NASA in-house spending supports its statutory objectives and not any specific contractor or contractors.²²³ As

²¹⁹ US FWS, para. 1 (emphasis added).

²²⁰ US FWS, paras. 262-267.

²²¹ One such example was stitching machinery supplied to Boeing under NASA contract NAS1-20546, section G.4 (Exhibit EC-324), which was supplied to study the questions posed under that contract, and was not suitable for commercial production. US FWS, para. 231, note 333. Boeing is not using the “stitching” technology studied in the ACAS program on the 787. In fact, when the U.S. Government abandoned the machines in place after the contract, Boeing sold them for scrap. Statement of Michael Bair, para. 55 (Exhibit US-7).

²²² Exhibit US-560, p. 41-42/235.

²²³ US FWS, para. 262-267; US SWS, paras. 64 and 67-69.

just one example, the kinds of activities that the EC challenges as “services” to Boeing were responsible for the 67 published papers referenced in Exhibit US-1140 and discussed in paragraph 73 of the US SWS. They were referenced in 369 additional publications. Thus, to assert that NASA’s in-house spending is in whole or in part a “service” to Boeing is inconsistent with the evidence.

209. The EC does, however, attempt to explain its claims regarding Space Act Agreements. The further detail only highlights the error of the EC assertions. Its first point, that there is no tabulation of the value of NASA goods and services provided under Space Act Agreements, merely reflects the irrelevance of an overall sum when the critical point is that there was no benefit because of the equal exchange of resources under those agreements. (The Panel should note that the EC has so far not provided a discrete estimate of the value of the provision of goods and services that it alleges to occur.) In any event, the EC criticism is now outdated. The United States began the process of estimating the value of NASA work performed under the relevant Space Act Agreements, which it submitted in interim form as Exhibit US-1256. The responses to Questions 183 and 185 describe this process and provide a finalized result.

210. The EC also complains in paragraph 13 that the United States did not include Space Act Agreements in the list of contracts in Exhibit US-1202, and contends that this approach demonstrates a “fundamental flaw” in the U.S. databases. In the first place, the exhibit in question is clearly titled “Payments to Boeing/McDonnell Douglas under NASA aeronautics programs challenged by the EC.”²²⁴ Since Space Act Agreements with Boeing never included a payment by NASA, they would not belong in a list of payments. Nor does this treatment represent a flaw in the NASA databases. NASA consulted *disbursement* databases in compiling its estimate. Space Act Agreements do not require any disbursement to the private sector partner, so they would not appear in the disbursement database. The EC also asserts that the United States “never cited to any of the exhibit numbers associated with those Space Act Agreements in support of any of its claims or arguments.” The EC is incorrect. References to particular Space Act Agreements appear in US FWS, paragraph 235, note 346 and paragraph 238, note 348 and US RPQ1, paragraph 67, note 75. The United States provided further information on Space Act Agreements in Exhibit US-1245.

211. In paragraph 14, the EC contends that the United States “deliberately omitted” certain Space Act Agreements, thereby casting doubt on whether it properly identified all NASA and DoD²²⁵ contracts. In the first place, the United States has been clear throughout the process that it was addressing Space Act Agreements separately from other types of transactions. As for the omitted SAAs, the United States explains in its response to Question 184, any omissions were

²²⁴ Exhibit US-1202.

²²⁵ The EC never explains why NASA’s activities would be relevant to an evaluation of DoD’s efforts to provide information to the Panel. Indeed, there is no connection between the two. Space Act Agreements are a contractual vehicle for use only by NASA.

unintentional and, in any event, so small as to have no meaningful effect on the total value of Boeing's Space Act Agreements related to the eight challenged programs.

212. **Subcontracts.** The EC notes that the United States has not reported the value of subcontracts under which Boeing allegedly performed work in support of other entities' independent contracts with NASA. This observation is correct, but irrelevant.²²⁶ As the United States has explained elsewhere, Boeing's subcontracts are not a financial contribution.²²⁷ In any event, since contractors independently manage their relationship with subcontractors, NASA does not collect information on payments made by its contractors to their subcontractors.²²⁸ The United States was able to submit information from Boeing establishing that payments it received for subcontract work related to NASA contracts represent a [***] portion of its total revenue for work related to government contracts.²²⁹

213. The United States has addressed each of the invalid attacks on NASA's estimate of its payments to NASA under the eight NASA R&D programs challenged by the EC. In closing, we note that these arguments fail for a more fundamental reason. The EC criticizes NASA's data in the abstract, without placing it in the context of the parties' posture in this dispute or the legal standard under which the United States put forward this information. First, the EC fails to note that NASA *estimated* the value of payments, and never purported to provide an exact figure. Indeed, in light of the vast span of time covered by the EC allegations, the number of programs at issue, and the number of different NASA facilities involved, the type of precision the EC would require is an impossibility. Second, the EC also fails to note that the United States submitted this estimate in rebuttal to the EC calculations of the magnitude of alleged subsidies, a context in which the Appellate Body has found that a "precise, definitive quantification of the subsidy is not required."²³⁰ The U.S. estimate demonstrates that the EC estimate is grossly exaggerated.

187. *Can the United States explain the factual basis for the assertion in para. 210 of its FWS that: "NASA's records show that out of the \$3.3 billion in 'institutional support' that the EC challenges, NASA has only provided limited goods and services to Boeing/MD pursuant to 35 Space Act Agreements that cover discrete uses by these companies of NASA wind tunnels, and work on other jointly undertaken R&D projects"?*

214. NASA's legislative authority, regulations, and internal procedures only authorize it to provide goods or services to Boeing or any other private entity under a contract, lease,

²²⁶ US RPQ1, para. 10, US Comments on EC PRQ1, paras. 18-32.

²²⁷ The comments on the EC response to Question 3 address this issue in some detail. U.S. Comments on EC RPQ1, paras. 18-34. The U.S. response to question 130 provides additional analysis.

²²⁸ US RPQ1, para. 25.

²²⁹ Exhibits US-1242 and US-1243.

²³⁰ *US – Upland Cotton (AB)*, para. 467.

cooperative agreement, or other transaction (namely, a Space Act Agreement).²³¹ Thus, NASA does not have authority to simply provide goods or services to a private entity outside of a formal agreement. NASA's initial search for documents disbursing funds under the eight challenged programs uncovered all of the contracts, leases, or cooperative agreements. Therefore, Space Act Agreements provided the only other means through which NASA could have supplied goods or services to Boeing. The 35 Space Act Agreements identified by NASA were accordingly the only provision of goods or services that could have gone to Boeing out of the \$3.3 billion in institutional support that the EC alleged.

188. *The European Communities has emphasized that the information made available by the United States does not enable the Panel to "verify" whether the United States has submitted all relevant contracts and agreements between NASA and Boeing/MD. Please explain how, in the view of the United States, the Panel can satisfy itself that the information provided by the United States in this regard is accurate and complete.*

215. The United States has gathered the following information to verify the total amount of payments from NASA to Boeing by linking them to published data on NASA spending and accounting for all expenditures.

216. To verify the completeness of its data set, NASA performed a comparison with the NASA Annual Procurement Report, a report published each year that lists all awards to the agency's 100 top contractors. The EC submitted copies of the 100 top contractors reports for 1991-2006 as Exhibit EC-341, and relied upon that report as evidence of NASA's procurement spending.²³²

217. The FPDS and FPDS-NG were the source for the Annual Procurement Report data. To verify the completeness of its data set, NASA constructed a query of the FPDS and FPDS-NG to capture all contracts with Boeing and Boeing subsidiaries in the Top 100 Contractors list in the 1989-2006 period and compared their value with the total value published in the NASA Annual

²³¹ Section 203(c) of the Space Act grants NASA limited authorities. Most of those authorities involve the taking of official acts (such as issuing regulations or hiring personnel) or the *acquisition* of goods and services from non-NASA sources. Its only authority to supply of goods or services to private entities comes under section 203(c)(5), which authorizes NASA

to enter into and perform such contracts, leases, cooperative agreements, or other transactions as may be necessary in the conduct of its work and on such terms as it may deem appropriate, with any agency or instrumentality of the United States, or with any State, Territory, or possession, or with any political subdivision thereof, or with any person, firm, association, corporation, or educational institution.

Space Act, section 203(a)(5) (Exhibit EC-286). Thus, NASA does not have authority to supply goods and services without a contract, lease, cooperative agreement, or "other transaction" (namely, a "Space Act Agreement.").

²³² *E.g.*, EC FWS, para. 530, note 833; Exhibit EC-19, note 1.

Procurement Report. The results of that comparison appear in exhibit US-1301. On average, the value of the awards to Boeing and Boeing subsidiaries in the Top 100 Contractors as reported by FPDS and FPDS-NG for 1989-2006 was within 0.15 percent of the value reported in the Annual Procurement Report, and in no year was the difference more than 2.1 percent.²³³ Therefore, the FPDS/FPDS-NG data set matches closely to published data accepted by the United States and the EC as a valid and complete representation of all NASA contracts with Boeing.

218. The NASA query included Boeing and all Boeing subsidiaries in the FPDS/FPDS-NG (including any that were not in the Top 100 Contractors list). It then identified contracts in that all Boeing contracts list that were awarded by NASA centers that perform no aeronautics research, and filtered those contracts from the results of the all Boeing contracts query. The value of contracts awarded to Boeing by NASA non-aeronautics centers, \$29,296 million, indicates that the vast majority of Boeing's contracts with NASA (96.5 percent by value) are related to non-aeronautics activities: NASA facilities, NASA research activities, and NASA programs supporting NASA's space and exploration objectives, that the EC has not even alleged as providing subsidies to Boeing large civil aircraft.

219. The United States recalls that the tenor of the EC's completeness assertions is that NASA in its initial effort omitted a significant number of contracts that involved research into large civil aircraft. The results of NASA's "all Boeing contracts" query indicate that this is not the case. Once contracts issued by facilities that conduct no aeronautics research are factored out, there are only \$1.05 billion in contracts remaining for the 1989-2006 period that are even potentially related to the EC claims regarding aeronautics research. (The United States notes that the contract set at this stage includes engine research, research into hypersonics, and air traffic control research that the EC itself has stated are not related to its claims. Moreover, it also includes research funded by programs other than the eight challenged programs.)

220. As a further verification step, NASA performed an exercise to determine whether there were any contracts that *might* cover *some* research related to large civil aircraft that were not included in the initial U.S. contract set. To do this, NASA personnel manually reviewed the descriptions of the research conducted under each Boeing contract awarded by the four centers that conduct aeronautics research. (In this exercise, no PSC²³⁴ filter was applied to the contract information in the FPDS/NPMS and FPDS-NG, which meant that the review covered every Boeing contract with the four aeronautics centers.²³⁵) The NASA personnel assigned each contract to one of the following categories: space, non-LCA (*e.g.*, wind turbines and turboprops), procurement of goods, LCA, airspace (air traffic management), engines,

²³³ The biggest differences were in 2005 and 2006, which may have been the result of the switch to the FPDS-NG.

²³⁴ The PSC is the Product & Service Code that indicates the broad category within which the subject matter of a contract falls.

²³⁵ As the FPDS and FPDS-NG contain entries for individual purchase orders and task orders issued under a contract, this set contained more than 600 entries.

hypersonics, rotorcraft, infrastructure (work related to the improvement of NASA-owned facilities), VTOL/STOL (“vertical take-off and landing”/“short take-off or landing”), aircraft support (related to the maintenance and upkeep of NASA’s research aircraft), aircraft R&D, and other. NASA removed only those contracts involving space, non-LCA, procurement of goods, airspace, engines, hypersonics, infrastructure, VTOL/STOL, and aircraft support. (The United States understands the EC allegations as not covering these topics.) It then treated research that fell into the LCA, rotorcraft, aircraft R&D, and other categories as potentially related to the EC challenge.²³⁶

221. As a result of the manual review exercise, NASA concluded that 14 instruments in the initial contract set fell into one of the excluded categories. These contracts involved research involving engines, research involving airspace (air traffic management), aircraft support, infrastructure, or purchases of equipment. Exhibit US-1304 contains a list of these instruments, which had a value of \$75 million. NASA also concluded that the research descriptions for some of the contracts not captured in the initial set indicated that all or some of the research may have been related to the EC challenge.

222. The remaining group of contracts had a value of \$775 million, which represents the maximum value of Boeing contracts related to EC-challenged R&D. First, when it performed the manual review, NASA erred on the side of inclusion. Where the description of research under a contract involved both excludable research and research in the LCA, rotorcraft, aircraft R&D, or other categories, NASA treated the whole contract as related to the EC challenge. Thus, the value of the contracts in this category is certainly larger than the actual value of NASA research contracts related to the EC challenge.²³⁷ In addition, some of these contracts also received funding from sources other than the eight challenged programs. Determining other funding sources in a systematic fashion would have required matching other databases and records against the list in Exhibit US-1305.²³⁸ The time available did not permit NASA to perform this task. Thus, while the value of these contracts is \$116 million higher than the value

²³⁶ The assignment of certain research performed under contracts with these topics into the “LCA-related” set reflects the judgment of NASA personnel that the research appeared not to fall into one of the categories explicitly excluded by the EC and, therefore, *could* be relevant to large commercial aircraft applications, not whether it was actually applied to large civil aircraft. In particular, the United States does not agree that rotorcraft research is related to large civil aircraft. However, as a conservative estimate, NASA has included rotorcraft and “other” in its estimate of the maximum value of Boeing LCA-related research contracts.

²³⁷ To give just one example, Contract NAS1-20341 encompasses subsonic aircraft, hypersonic vehicles, and spacecraft guidance and control. The latter two categories are certainly irrelevant to large civil aircraft. However, in line with a conservative approach, the United States included this contract in its entirety in the “Largest Possible” category.

²³⁸ As noted above, the FPDS and FPDS-NG do not contain source-of-funding data.

of contracts reported in paragraph 212 of the US FWS and Exhibit US-1202 for that period,²³⁹ the difference is not significant.

223. This verification exercise produced the following results:

FPDS/FPDS-NG query of all Boeing awards	\$30,351,447,265
Awards by NASA non-aeronautics centers	\$29,296,147,205
Awards by NASA aeronautics centers for research related to space	\$81,405,612
Awards by NASA aeronautics centers for research excluded from EC allegations (engines, air traffic management, hypersonics, etc.)	\$199,204,461
Remaining awards at NASA aeronautics centers	\$774,689,987

224. A list of these contracts appears in Exhibit US-1305. NASA assigned each contract to one of the eight programs based on the predominant source of funding indicated in Exhibit US-1202 or, for contracts not referenced in that exhibit, based on the description of the research conducted under the contract.²⁴⁰ Exhibit US-1305 also indicates which contracts have been submitted to the Panel as exhibits, and the value of those contracts. When the \$66 million estimated value of contracts under the ACEE program is added to the 1989-2006 value, that produces a total value of \$841 million.

225. The Panel can draw two significant conclusions from NASA’s verification exercise. First, the value of contracts identified based on a top-down methodology that resolves doubts in favor of the EC results in a total of \$841 million – significantly lower than the \$10.4 billion in funding that the EC contends went to Boeing. Second, even if *all* of the research conducted under the contracts covered by this total was related to the EC’s challenge, which is not the case, the contracts submitted by the United States represent 74 percent of the total value.²⁴¹ If contracts submitted by the EC are included, the value of contracts before the Panel is 84.5

²³⁹ For purposes of comparison, the \$66 million estimated value of ACEE contracts, which predate 1989, should be subtracted from the total values listed in paragraph 212 of the US FWS and Exhibit US-1202.

²⁴⁰ NASA also identified a small number of errors with its initial assignment of contracts to particular programs, and corrected them.

²⁴¹ Exhibit US-1305.

percent. In short, the evidence available to the Panel is in any event fully representative of the work that Boeing performed for NASA with regard to the programs challenged by the EC.

C. DOD AERONAUTICS RESEARCH & DEVELOPMENT

1. Existence of specific subsidies

190. Please direct the Panel to the arguments and evidence on record regarding:

- (a) the process that was followed in selecting contractors under the DOD R&D programmes at issue; and
- (b) the process followed by DOD in formulating the "statements of work" contained in the R&D contracts at issue, including the extent of Boeing/MD's involvement in the process of formulating the "statements of work".

Please indicate whether the same process was followed in the case of Procurement Contracts and Cooperative Agreements.

226. Arguments regarding the process followed in selecting performing entities under the DoD RDT&E programs at issue appear in US OS2, paras. 17-19. Evidence regarding this process appears as follows:

- (1) DoD issued a Broad Agency Announcement ("BAA") or Program Research and Development Announcement ("PRDA") to solicit proposals to perform research of interest to DoD. The BAA or PRDA took the form of a public notice in the Commerce Business Daily.²⁴² The notice typically included six sections: (A) Introduction; (B) Requirements; (C) Additional Information (which addressed, among other things, type of instrument and pricing arrangement); (D) Proposal Preparation Instructions; (E) Basis for Award; and (F) Points of Contact.²⁴³ US-604, p. 32 (BAA); 612, p. 55-56/57; US-1251, pp. 2-4 & 8-9/12 (PRDAs)²⁴⁴

²⁴² The 2008 equivalent of this publication is FedBizOpps and Grants.gov, the Government-wide Points of Entry for procurement and assistance, respectively.

²⁴³ The process may also begin with a request for proposals ("RFP"). In that case, the scenario begins with the agency performing market research and exchanges with industry to develop a good understanding of the government's requirements and industry capabilities. A Notice of Contract Action is published 15 days before the RFP is issued to provide advance notice to the public. The RFP is then issued, including all elements required by FAR 15.203, including the Government's requirement, instructions to offerors for proposal preparation, and the basis for award, including selection criteria. Instructions to offerors would indicate whether offerors' proposals must include offeror-prepared SOWs. After the due date for proposals, the Government evaluates proposals against the criteria identified in the RFP, and awards one or more contracts, consistent with the Basis for Award in the RFP.

- (2) In appropriate circumstances, when justified and approved in accordance with governing regulations,²⁴⁵ DoD could decide to designate a “sole source” for a particular research effort. This occurred in only two of the 41 contracts listed in Exhibit US-41(revised).²⁴⁶ US-617, p. 1/97, box 13
- (3) DoD evaluated the various proposals based on selection criteria specified in the solicitation.²⁴⁷ For example, the documents in US-1251 included a section entitled “Basis for Award,” which identified the criteria against which proposals would be evaluated. Examples of selection criteria include cost, whether the proposal provides new and creative solutions, the proposing organization’s understanding of the scope of the technical effort, soundness of technical approach, availability of qualified technical personnel, past experience in the relevant technological field, and the quality of the statement of work (organization, clarity, and thoroughness). Under the Dual Use Science and Technology Program, criteria might also include military benefit, commercial viability of technology (given the objective to have military technology that is more readily available and at lower cost through the commercial marketplace), and the quality and amount of the proposing organization’s proposed share of costs. US-604, pp. 32-33/37; US-1251, pp. 6 & 10/12

²⁴⁴ There are no RFPs among the materials already submitted to the Panel. The United States reads this question as allowing reference only to materials already submitted. Should the Panel desire, the United States will submit sample documentation for the RFP process.

²⁴⁵ U.S. law allows DoD to use procedures other than competitive procedures for procurement contracts only in limited circumstances. 10 U.S.C. § 2304(c) and 41 USC § 253(c). Separate statutes and policies govern the use of competitive procedures for the types of cooperative agreements at issue in this dispute. *E.g.*, 32 CFR § 37.400 (US-1315).

²⁴⁶ US OS1, paras. 17-19. This figure came from DoD’s records. It can be independently verified by examining the first page of each contract, which contains a box labeled “authority for other than full and open competition.” If DoD does not provide for full and open competition for a contract, it must enter the statutory provision authorizing an exception to the competition requirement. The absence of such a citation indicates that the contract resulted from use of competitive procedures. US-625, p. 1, box 23; US-620, p. 1, box 23; US-626, p. 1, box 23; US-634, p. 1, box 23; US-633, p. 1, box 23; US-621, p. 1, box 23; US-619, p. 51/92, box 23; EC-838, p. 1, box 23; US-622, p. 1, box 23; US-627, p. 1, box 23; US-628, p. 1, box 23; US-616, p. 1, box 5; US-618, p. 1, box 23; US-642, p. 1, box 23; US-631, p. 1, box 23; US-629, p. 1, box 13; US-639, p. 1, box 13; US-617, p. 1, box 13; US-606, p. 1, box 13; US-599, p. 1, box 13; US-602, p. 1, box 13; US-699, p. 1, box 13; US-697, p. 1, box 13; US-698, p. 1, box 13.

²⁴⁷ Usually the BAA or PRDA in the form of a public notice.

- (4) DoD awarded one or more contracts to the entity or entities that submitted the proposal or proposals that best met the selection criteria identified in the BAA or PRDA. The awarded contract or contracts took the form of a procurement contract, cooperative agreement, or other assistance or acquisition agreement, as appropriate, given the terms of the solicitation and the nature of the research effort. Contracts listed in Exhibit US-41(revised)

227. Arguments regarding the process followed by DoD in formulating the statements of work contained in R&D contracts, including Boeing/MD's involvement in the process, appear in US FWS, paras. 114-115. Evidence regarding this process appears as follows:

- (1) DoD issued a PRDA or BAA outlining the topic to be researched, and indicating the requirements for submitting technical proposals, including a proposed SOW, and cost proposals for carrying out the proposed research. In some cases, the PRDA or BAA imposed a page limit on the SOW.²⁴⁸ US-604, p. 33/37; US-612, p. 56/57; US-1251, pp. 6&10/12
- (2) Entities submitted proposals, including SOWs, to DoD. US-604, p. 36-37/37; US-612, p. 55/57; US-1251, pp. 2&8/12
- (3) DoD evaluated the proposals, including the SOWs, in deciding which proposing entity or entities would be invited to perform the work. DoD may accept only part of an individual proposal, and give other parts of the task to other proposing entities. US-604, pp. 32-33/37; US-1251, pp. 6 & 10/12
- (4) The SOW, as negotiated, appeared in the final contract. The proposed SOW may be included in its entirety, in part, or as modified during negotiations. Contracts listed in Exhibit US-1246
- (5) After award, the SOW may be modified as work progresses during performance of the contract if DoD decides to expand the field of inquiry, modify the work in light of developments over the course of the contract, or reduce the scope of work, if, for example, sufficient funds are not available. Expansion or modification of a SOW *E.g.*, US-630, pp. 24 and 26-37/66.

²⁴⁸ The process works somewhat differently for awards resulting from an RFP, as described in a footnote to the table on selection of an awardee.

may require review and approval to ensure compliance with applicable competition requirements.

228. The process described above applies to both procurement contracts and agreements awarded by the Air Force Research Laboratory, which represent the large majority of the documents submitted by the United States and referenced by the EC.²⁴⁹ In fact, for some projects, a single notice allows the proposing entity the flexibility to propose both the type of instrument (e.g., cooperative agreement, procurement contract) and pricing arrangement (e.g., cost plus fixed fee, cost reimbursement (no fee)).²⁵⁰

191. *In its response to Question 20(a), the United States reiterates its argument that any funding provided to Boeing/MD through Cooperative Agreements entered into with DOD constitutes the "purchase of a service".*

(a) *How does the United States reconcile that characterization with its acknowledgement, (paras. 45ff of US RPQ1), that Cooperative Agreements are "assistance" instruments used only when the principal purpose of the activity to be carried out is not the acquisition of services for the direct benefit or use of the government?*

229. To be clear, the United States is not arguing that funding through cooperative agreements (or similar vehicles) *always* constitutes the purchase of a service for purposes of Article 1.1(a)(1). Rather, that Article requires an examination of the substance of transactions, and that the substance of the cooperative agreements that meet the EC's criteria for inclusion in this dispute makes them purchases of services for these purposes.²⁵¹

230. This conclusion is fully consistent with the fact that, for purposes of U.S. government procurement law, cooperative agreements are "assistance instruments" and so do not involve the acquisition of services for the direct benefit or use of the government. In the first place, the Appellate Body observed in *US – Lumber CVDs (AB)*:

{A}n examination of municipal law or particular transactions governed by it might be relevant, as evidence, in ascertaining whether a financial contribution exists. However, municipal laws – in particular those relating to property – vary amongst WTO Members. Clearly, it would be inappropriate to characterize, for

²⁴⁹ The EC submitted 16 DoD contracts – Exhibits EC-406, EC-507, EC-508, EC-509, EC-510, EC-511, EC-512, EC-513, EC-514, EC-515, EC-517, EC-518, EC-827, EC-830, EC-838, and EC-1143. Of these, all but one (Exhibit EC-830) are contracts with AFRL (formerly known as "Wright Laboratory").

²⁵⁰ *E.g.*, Exhibit US-1251, p. 5/12.

²⁵¹ US RPQ1, para. 52 (“{t}he individual cooperative agreements provide evidence that the transactions were purchases of services for purposes of Article 1.1(a)(1).”).

purposes of applying any provisions of the WTO covered agreements, the same thing or transaction differently, depending on its legal categorization within the jurisdictions of different Members. Accordingly, we emphasize that municipal law classifications are not determinative of the issues raised in this appeal.²⁵²

Thus, the characterization of an instrument as a “purchase” or “acquisition” contract as opposed to an “assistance agreement” may be relevant, but is not determinative. The EC has itself made a similar point, arguing that “{w}hat counts is the substance of the transaction, not its form.”²⁵³

231. In its response to Question 20, the United States explained why the cooperative agreements at issue were purchases of services for purposes of Article 1.1(a)(1)(iii), notwithstanding the use of an “assistance instrument” to achieve that goal. Paragraphs 53 through 59 of the US RPQ1 addressed the exchange of value under one DoD cooperative agreement and two NASA cooperative agreements, while Exhibit US-1207 addressed the other agreements (including OTAs) at issue in this dispute. The fact that the benefits to DoD or NASA under these agreements were indirect does not change the conclusion that the agency received something of value in exchange for the funds that it paid the private party, making the transactions purchases for purposes of Article 1.1(a)(1)(iii). In the U.S. view, this evidence of an exchange of value in substance outweighs the formal classification of the instruments as cooperative agreements.

(b) *How does the United States respond to the European Communities' argument that:*

"The United States' response to Question 20(a) is entirely self-contradictory. Essentially, the United States asks the Panel to find that "procurement contracts" are purchases of services because their "principal purpose is acquisition of supplies for the direct benefit or use of the government." Yet, the United States then asks the Panel to ignore the fact that "cooperative agreements and Other Transaction Agreements ('OTAs') are not 'acquisitions' under U.S. government contracting law," and nonetheless still find that these other instruments are also purchases of services. The United States also argues elsewhere that "the purpose of a transaction does not determine the type of transaction," further demonstrating the contradictions inherent in the United States' arguments.

The United States cannot have its cake and eat it too. ..." (EC Comments on US RPQ1, paras. 69-70, footnotes omitted)

²⁵² US – Lumber CVDs (AB), para. 56 (citations omitted).

²⁵³ EC RPQ1, para 74.

232. There is no contradiction in the U.S. response. It merely reflects that the domestic legal characterization of a transaction is not dispositive of its treatment under Article 1.1(a)(1), and that the substantive act of purchasing, as that term is used in Article 1.1(a)(1), may be executed through multiple legal forms.

233. With regard to procurement contracts, the United States has noted that such vehicles are in form an acquisition of services for the direct benefit or use of the government.²⁵⁴ It has also explained how these contracts involve an exchange of value between the purchasing agency and its service supplier.²⁵⁵ These two facts establish that the DoD and NASA acquisition of services through procurement contracts constitutes a purchase for purposes of Article 1.1(a)(1)(iii).

234. With regard to cooperative agreements and the OTAs in this dispute,²⁵⁶ the United States has noted that the vehicles are in form *not* an acquisition of services, and that any benefit to the U.S. government is indirect.²⁵⁷ However, the United States has also explained how these agreements involve an exchange of value between the purchasing agency and its service supplier.²⁵⁸ The United States does not ask the Panel to ignore the legal form of the transaction, or the fact that a particular instrument is not an “acquisition” under U.S. government procurement law. Rather, the United States, like the EC, considers that the greater weight should rest on the substance of the transaction, rather than its form. Therefore, in light of the exchange of value between the parties, the cooperative agreements challenged by the EC are purchases of services for purposes of Article 1.1(a)(1)(iii). In short, while the two sets of transactions are not identical in form, both fall within the scope of a purchase for purposes of Article 1.1(a)(1)(iii).

192. *According to the United States, “where a DoD contracting agency sees additional direct applications for purchased technology, it seeks to obtain private sector contribution for the development of the technology”. (US FWS, para. 132) If that is correct, does it not follow that DOD’s decision to fund certain R&D activities through Cooperative Agreements constitutes evidence that the activities funded under those Cooperative Agreements did, in DOD’S view, have dual use applications? Would DOD’S decision to fund certain R&D activities through Procurement Contracts constitute evidence that the activities funded under those Procurement Contracts did not, in DOD’S view, have dual use applications?*

235. The “decision to fund” through a procurement contract or an assistance instrument, such as a cooperative agreement, is not based on the existence or absence of dual use applications.

²⁵⁴ US FWS, para. 97, note 100.

²⁵⁵ US FWS, paras. 90-96 and 100-106.

²⁵⁶ It is possible for OTAs to be “acquisition instruments.” However, the OTAs at issue in this dispute are not.

²⁵⁷ US FWS, para. 97, note 100; US RPQ1, paras. 45 and 52.

²⁵⁸ US RPQ1, paras. 52-59 and Exhibit US-1207.

U.S. practice, based on statute (31 U.S.C. chapter 63), is to use the legal instrument suited to the primary purpose of each transaction. If the primary purpose is to acquire property or services for the Government's direct benefit or use, a U.S. government agency must use a procurement contract (31 U.S.C. § 6303). If the purpose is not to acquire property or services for the direct benefit of the Government, an agency may use a cooperative agreement when the agency expects it will have substantial involvement in carrying out the activity funded under the agreement (31 U.S.C. §§ 6304-05). Thus, it is the nature of the government's interest in or need for the research, and not the nature of the applications to which the results of the funded research might be put, that is the determining factor.

236. For the cooperative agreements at issue in this case, the private party is (and must be, as a matter of policy) willing to contribute to the effort and forego fee or profit. Private parties will typically accept such an arrangement only when the project has some independent application for them. Whether that is a "dual-use" technology as the EC uses that term is a different question. The independent application may be outside of aeronautics, or entirely outside of aerospace.

237. A procurement contract is the appropriate vehicle to acquire services for the direct benefit or use of the government.²⁵⁹ In such cases, a cooperative agreement is not an option under U.S. law even if there is a potential "dual use." However, DoD may rely on competitive procedures to obtain the military R&D it needs at the best possible value. DoD may also seek a type of procurement contract that formally reflects the potential value to the contractor, for example, a cost-sharing or no-fee contract.²⁶⁰ Whether or not the contractor agrees to such an approach depends on how it values the potential dual use, whether it knows that competitors are interested in the work, and on the results of negotiations with DoD. As the United States has explained, these procedures will result in DoD establishing a business arrangement and pricing arrangement for its research that is no more favorable than is available in the market, and that takes into consideration the value of any expected civil applicability of the results of the research.

238. When the United States noted that "the DUS&T program underscores that where a DoD contracting agency sees additional direct applications for purchased technology, it seeks to obtain private sector contribution," it did not mean to suggest that cooperative agreements were the only way to do so. In fact, since a cooperative agreement is not appropriate when the principal purpose of the transaction is to acquire property or services for the direct use or benefit of the government, it will not be an option in many situations. As the response to Question 195 explains in greater detail, the existence of potential commercial applications can affect government research programs in different ways.

²⁵⁹ US FWS, para. 97, note 100.

²⁶⁰ *E.g.*, Exhibit US-1251, p. 5/12 ("Based on the strong potential for commercial applications, the Air Force will consider the full range of Cost Contract types, to include Cost Plus Fixed Fee (CPFF), Cost Reimbursement (CR) (no fee), Cost Sharing (CS), along with grants and other forms of assistance instruments such as cooperative agreements and other transactions. Offerors are encouraged to propose a contract type which is considered to be most appropriate for the technology proposed to be developed.").

193. *How does the United States respond to the European Communities' argument, at para. 74 of its Comments on US RPQ1, that "to the extent DOD does obtain any valuable patent and data rights under these cooperative agreements and OTAs, as the United States alleges, this constitutes a purchase of goods by DOD, as patent and data rights are properly considered as goods"?*

239. The U.S. response to Question 127 also responds to this question.

194. *At para. 54 of its RPQ1, the United States notes that under DOD Cooperative Agreements (or at least the DOD Cooperative Agreement at issue), the recipient commits to make the contributions provided under the agreement, which account for half of the total cost of the work. The United States then notes that "[t]his should eliminate any concern that there is some benefit to Boeing for which the company has not "paid." Is the United States arguing that the matching of funds / sharing of costs by the recipient of a governmental payment negates the possibility of that payment conferring a "benefit" within the meaning of Article 1.1(b)? If so, what is the legal basis for that proposition?*

240. No, the United States is not arguing that the government cost matching or fund sharing as a rule negates the possibility of a benefit. In fact, the United States explicitly recognizes that under some circumstances – represented in this dispute by ATP cooperative agreements – cost sharing arrangements can and do confer a benefit to the private party recipient when the government's "share" represents a "grant" for purposes of Article 1.1(a)(1)(i). In contrast, the point of paragraph 54 is that in the factual circumstances presented by the 12 DoD cooperative agreements submitted by the United States,²⁶¹ Boeing supplied valuable services and intellectual property rights in furtherance of a uniquely government function, national defense. Therefore, there is no benefit because the government "share" represents a "purchase" of those services and rights for purposes of Article 1.1(a)(1). It is the exchange of value in these agreements, which is not necessarily present in all cost sharing or fund-matching arrangements, that eliminates the benefit.²⁶²

241. To be more specific, under each of the cooperative agreements, Boeing commits to perform certain services that advance both its own interests and those of DoD. It may be the development of a technology²⁶³ or the performance of research,²⁶⁴ but in either case there is a

²⁶¹ Paragraphs 52 and 53 and Exhibit US-1207 describe the relevant services supplied by Boeing under these agreements.

²⁶² The United States notes that the parties may negotiate a split of contributions other than 50/50. *E.g.*, Cooperative Agreement F33615-03-2-1403 (Lines, Ducts & Valves, Combustion & Energy Conversion Devices), pp. 7-8/39, paras. 4.060 and 4.090 (Government contribution \$945,598, private contribution \$948,681).

²⁶³ *E.g.*, Exhibit US-1207, p. 3, *discussing* Cooperative Agreement 33615-03-2-3300 (Structural Health Monitoring/Assessment for Bonded Repairs) (Exhibit US-607).

²⁶⁴ *E.g.*, Exhibit US-1207, p. 5, *discussing* Cooperative Agreement F33615-03-2-5202 (Advanced Ceramic Thermal Protection Materials) (Exhibit US-610).

clear relationship to DoD’s mission of national defense.²⁶⁵ To advance and shape this development, DoD commits funds to the project and receives in exchange the right to help define objectives²⁶⁶ and rights with regard to data and other intellectual property generated under the agreement.²⁶⁷ Absent the agreement, DoD would not have input into the process, or the rights to data under the agreement.

242. Thus, DoD is not simply giving the funds away for the benefit of the recipient. It obtains something of value through the agreement. The EC’s assertion that DoD receives nothing in exchange for its payments – the sole support the EC advances for its allegation that this type of instrument confers a benefit – is contrary to the evidence, leaving the EC without a *prima facie* case on these instruments with regard to cooperative agreements and OTAs.

195. *Is there a contradiction between: (i) the United States’ argument that spillovers / synergies are part of normal commercial transactions and that the alleged existence of dual use for a technology does not affect the application of the adequate remuneration standard; and (ii) the US practice of using Cooperative Agreements, and not Procurement Contracts, when there are perceived commercial benefits to firms?*

243. No, there is no contradiction, because the two propositions deal with different aspects of transactions. Synergies and spillovers are the result of almost every transaction because a seller will almost always develop some useful knowledge in performing a job. Cooperative agreements and procurement contracts are two types of instruments to memorialize a transaction. They may contain specific provisions to deal with expected synergies or spillovers, or they may not. The critical point is that, in all cases, when a seller is aware of the potential value of the

²⁶⁵ That relationship can be a long-term benefit to DoD that is not sufficiently defined at the time of the agreement to be considered a “direct benefit” that would necessitate a procurement contract.

²⁶⁶ *E.g.*, Cooperative Agreement F33615-98-2-5113, p. 7/24, art. 7.C:

The technical aspects of this program will be managed via an Integrated Product Team (IPT) which will consist of; McDonnell Douglas Corporation, a wholly-owned subsidiary of The Boeing Company, The Boeing Company, Sandia National Laboratories, University of Dayton Research Institute personnel (as described in the proposal) and Government personnel (as described below). Government personnel will include, as a minimum the Government Program Manager from the Air Force Research Laboratory, Materials and Manufacturing Directorate, Manufacturing Technology, Division, Processing and Fabrication Branch (AFRL/MLMP)), Structural and Nondestructive Inspection Engineer(s) from the System Program Office(s) (SPO) for the demonstration and application aircraft, Technology Insertion (TI) Engineers from the Air Logistics Center(s) (ALC) responsible for depot maintenance for the demonstration and application aircraft personnel from the Aeronautical Systems Center Aging Aircraft and Systems Program Office (ASC/SMA), engineers from the Air Force Research Laboratory, Materials and Manufacturing Directorate, Systems Support Division (AFRL/MLS), and engineers from the Air Force Research Laboratory Materials and Manufacturing Directorate, Metals, Ceramic and Nondestructive Evaluation Division (AFRL/MLL).”) (Exhibit US-636).

²⁶⁷ *E.g.*, Cooperative Agreement F33615-98-2-5113, p. 13/24, art. 22.B (Exhibit US-636).

synergy or spillover and faces competition to make a sale, each seller will factor the value of any synergy or spillover it may realize into its calculus as to the minimum compensation it will require to perform the service. Therefore, the existence of synergies or spillovers of the kind identified by the EC do not constitute a non-market benefit for purposes of Article 1.1(b) in a competitive market.

244. In evaluating how the existence of synergies and spillovers affect transactions, it is important to recognize that the EC's allegations regarding research into "dual-use" technology covers three distinct types of synergies and spillovers:

- (1) The "knowledge, experience, and confidence" that contractors and their employees accrue during work for the government that they take with them when they move on to other jobs.
- (2) Potential spillover, from the possibility that the contractor's work under a government contract produces a technology applicable in another line of work.
- (3) The expected independent application, when the government expects at the time it seeks to obtain a good or service that the contractor will actually apply the results of its government work in its dealings with another customer.

All of these types of spillover/synergy have counterparts in transactions among commercial entities.

245. The first, the accrual of "knowledge, experience, and confidence" results from any work performed by an enterprise and its employees. Most of the EC's allegations of benefits to Boeing from its work on government contracts fall into this category. The market price for goods and services reflects this type of synergy. U.S. government transactions, like commercial transactions generally do not contain a separate allowance under which the seller compensates the buyer for this type of non-monetary benefit from the transaction.

246. The second type of spillover/synergy, a potential spillover, is present in some commercial transactions. In a competitive market, the suppliers will evaluate the possibility that their performance of a particular job will create some spillover technological benefit to subsequent transactions and the value of that benefit. Their judgment of that value, and the perception of the value that other suppliers attach to the spillover, will affect the compensation they are willing to accept.²⁶⁸ In that way, competition among suppliers tends to eliminate from the price they are willing to bid the value of any anticipated synergies or spillovers.

247. The parties also have the option to make explicit provision for known potential spillovers. Clauses providing for the rights in patents with regard to inventions that may be made as a result

²⁶⁸ The supplier need not be able to use the spillover itself, but may participate to develop the spillover for potential resale to enterprises that can use it.

of a research contract are a formal method to deal with one type of potential spillover. Other types of potential spillovers – such as the possibility that one of the parties makes a non-patentable invention²⁶⁹ – may not be formalized. A private party will factor the formal division of rights and the expectation as to other spillovers into its calculus as to the compensation it will need to perform a research project.

248. The third type of spillover/synergy is the expressly expected (rather than merely possible) independent application. In a competitive market, knowledge of an independent application will affect the compensation that suppliers expect to receive. That may be implicit in the price, or the parties may make explicit arrangements to share the benefit. Either is an economically rational response to the situation.

249. As discussed in the U.S. response to Question 192, the government's interest or need drives which vehicles are available for a transaction. If the primary purpose is not to acquire property or services for the direct benefit or use of the government, the agency can use a cooperative agreement to carry out a research project.²⁷⁰ This has the effect of stating clearly the nature of the contribution that each party will make, which will not be the case if the contractor implicitly factors a spillover into the price it is willing to bid. Research funded under DUS&T and much of the research funded under the ManTech Program met these criteria. Therefore, the government had the option of using a cooperative agreement to formalize the contributions of each party toward the research project of mutual interest.

250. The flexibility that this system can provide to the government and its contractors can be seen in the solicitation of offers to perform research for the Composite Repairs Aircraft Structures project. The solicitation explains the expected government benefit:

With the present limitations in government funding, fewer aircraft will be procured in the future and the emphasis will be on techniques to extend the economic life of current aircraft. Techniques are being developed to enhance the lifetime potential of the aging aircraft in the Air Force fleet. One such technique is the use of bonded composite patches to repair fatigue or other damage on

²⁶⁹ For example, the research may take a step toward an invention that is not sufficiently distinct to warrant a patent.

²⁷⁰ As phrased, the question appears to assume that a U.S. government agency's decision whether to use a cooperative agreement or procurement contract is premised on whether there is a perceived commercial benefit. As explained in the U.S. response to Question 192, it is benefit to the government, and whether that benefit is direct, that determines whether a cooperative agreement is appropriate. If the benefit is direct, the government cannot use a cooperative agreement, even if there is a perceived commercial benefit from the work. In that case, the government relies on competition and the other mechanisms provided by U.S. government procurement law to ensure that its acquisition cost represents a "fair and reasonable price," the standard established by 48 CFR § 15.402(a) and elaborated upon in 48 CFR § 15.404-1(a) (Exhibits US-1316 and US-1317).

metallic aircraft structure or use bonded composite repairs to prevent future fatigue damage.²⁷¹

The solicitation also recognizes the potential commercial applications of such technology, and states that:

Based on the strong potential for commercial applications, the Air Force will consider the full range of Cost Contract types, to include Cost Plus Fixed Fee (CPFF), Cost Reimbursement (CR) (no fee), Cost Sharing (CS), along with grants and other forms of assistance instruments such as cooperative agreements and other transactions. Offerors are encouraged to propose a contract type which is considered to be most appropriate for the technology proposed to be developed.²⁷²

Producers of both military and civil aircraft (like Boeing), producers of only military aircraft (like Lockheed Martin and Northrup Grumman), suppliers (like Alcoa, Raytheon, or commercial composites manufacturers), independent research entities, and universities were all eligible to submit offers. The Air Force then reserved to itself “the right to select for award of a contract, grant, or cooperative agreement any, all, part or none of the proposals received.”²⁷³

251. Thus, offerors knew from the outset that they had to submit the best combination of proposed research business arrangement and remuneration to get the award. The Air Force awarded Boeing Procurement Contract F33615-97-C-3219 as a result of this solicitation, indicating that Boeing’s offer had the highest “overall merit” on “both technical and cost aspects.” In other words, Boeing’s cost-plus-fee contract provided a better value for the government than any other offer. It would not have made economic sense for the government to choose a different offer.

2. Value of payments under DoD R&D contracts and agreements and of goods and services provided by DoD

207. *In its comments on the response of the European Communities to Panel Question 2(a), the United States reiterates its argument that the analysis in Exhibit EC-07 involved "a keyword based-approach". Can the United States address in greater detail the arguments made on pp.28-29 of Exhibit EC-1176 that the analysis in Exhibit EC-07 was based on "a careful reading of each paragraph of the project description", that "a simple keyword search would have resulted in significantly higher funding estimates related to dual-use than the ones actually calculated by CRA" and that "a review of the PE descriptions related to composites included in the CRA analysis further reveals the generic (i.e., not specific to military) applicability of the research to LCA"?*

²⁷¹ Exhibit US-1251, p. 2/12

²⁷² E.g., Exhibit US-1251, p. 5/12.

²⁷³ Exhibit US-1251, p. 6/7.

252. The EC arguments cited in this question do nothing to support CRA’s contention that its analysis has “integrity” or to support the conclusion that “Boeing received billions of dollars of potentially dual-use technology development funding via RDT&E contracts.” In fact, a more detailed consideration of these assertions only provides further support for the U.S. initial points that CRA’s analysis is “plagued with errors,” “entirely superficial,” and based on the presence of keywords “that indicate nothing about the actual relevance or even theoretical usefulness of the research in the civil sector.”²⁷⁴ In particular, the examples demonstrate that CRA treats research as having civil applications even when it covers topics that CRA concedes have no such application, that CRA frequently applies an unjustified presumption that generic research has a civil application, and that CRA simply ignores the stated military objective that shapes the focus of what it considers to be “generic” research efforts.

253. The first assertion CRA makes to defend its methodology is that it performed “a careful reading of each paragraph of the project description.”²⁷⁵ As support, it presents two descriptions for research funded under a subset of the Materials PE, number 0602102F, and explains why it excluded one and included the other. If CRA intended the juxtaposition of these two quotations to demonstrate that it carefully reviewed research descriptions and included or excluded them based on a reasoned conclusion as to whether they indicated a civil application, it has failed. Its “justification for excluding one research topic as exclusively military applies equally to a number of other topics that it *included* as having civil application, which highlights the arbitrariness (or randomness) of its analysis. CRA’s justification for including a different research topic, in turn, provides just one more example of how it improperly disregarded the military objective of DoD research in attempting to identify research into dual-use technologies.

254. To begin, consider the description of research that CRA concedes has no bearing on large civil aircraft:

Developed ceramic matrix composites to develop an understanding of material response to service life environments and to characterize materials to enable revolutionary performance improvements in advanced propulsion systems and high temperature airframe structures.

CRA explains that it excluded research meeting this description because “{h}igh temperature airframe structures would generally be more important in high supersonic, or hypersonic aircraft, for instance. The funding in this case was therefore excluded from the CRA analysis.”²⁷⁶ The United States agrees that such research should be excluded for the reasons advanced by CRA (among others).

255. However, CRA treats the following as implicating dual-use technology:

²⁷⁴ US FWS, para. 128.

²⁷⁵ Exhibit EC-1176, p. 28.

²⁷⁶ Exhibit EC-1176, p. 29.

*Develop ceramics and ceramic matrix composite technologies for revolutionary performance and supportability improvements in advanced propulsion systems and high temperature aerospace structures.*²⁷⁷

The italicized text is identical to the description that CRA concedes should be excluded. CRA's brief description provides no basis to understand why CRA concluded that this research should be included, while the earlier quoted research should be excluded. The addition of references to "ceramics" and "supportability" cannot be the reason, as CRA's "justification" for including this research mentions only the presence of "ceramic matrix composites" and does not discuss supportability. Nor can the fact that this research involved "technologies", which was surely part of the effort in the research that CRA concedes should be excluded. The fact that this description references aerospace structures, rather than merely airframes, only serves to emphasize that this research could also extend beyond airframes and into space vehicles, a category that the United States and EC agree has nothing to do with large civil aircraft.

256. Another example appears in the Aerospace Flight Dynamics/Vehicle Technologies program element, number 0602201F, where CRA treated the following as dual use:

durability of existing and future aerospace vehicle structures by developing technologies that incorporate advanced materials as well as passive and active cooling to withstand the extreme environments of high temperatures, vibrations, and acoustic noise to reduce cost and increase life of aerospace vehicle structures...²⁷⁸

Again, the reference to "extreme environments" and "high temperatures" implicate the same concerns that CRA admits as justifying exclusion – that these are conditions that "would generally be more important in high supersonic, or hypersonic aircraft, for instance." However, CRA's "justification" for inclusion states simply that "technologies that reduce vibration, acoustic noise, and provide for cooling will improve the durability of aerospace vehicle structures."²⁷⁹ It makes no allowance for the fact that this research focused on "extreme" environments or for the possibility, recognized in the first quotation, that military aircraft operate under unique temperature stresses that are irrelevant to civil aircraft.

257. In short, CRA's recognition that technologies involving high temperature conditions are more important to supersonic and hypersonic flight and accordingly excluded from research relevant to large civil aircraft only undermines the conclusions it makes elsewhere, when it includes the very research that it says should be excluded. This is not the product of a "careful reading."

²⁷⁷ Exhibit EC-7, Appendix A, p. 13.

²⁷⁸ Exhibit EC-7, Appendix A, pp. 15-16.

²⁷⁹ Exhibit EC-7, Appendix A, pp. 15-16.

258. The quotation that CRA argues was properly included only serves as evidence of a pervasive flaw in CRA’s analysis. That quotation reads:

Developed and transitioned affordable lightweight metals and metal matrix composites, higher temperature intermetallic alloys, and materials processing technology to enable enhanced performance, lower acquisition costs, and improved reliability of Air Force weapon systems.²⁸⁰

CRA explains inclusion of research meeting this description as valid because “technology that is being developed clearly has the potential to benefit LCA manufacturers in the form of aircraft designs that exhibit ‘enhanced performance, lower acquisition costs, and improved reliability,’ in the same way that Air Force weapon systems would benefit.”²⁸¹ The fact that the Air Force explicitly linked this technology to its *weapons systems* plays absolutely no role in CRA’s analysis. CRA simply assumes that because the Air Force expects the research to produce “enhanced performance, lower acquisition costs, and improved reliability” of its weapons systems, that large civil aircraft will benefit “in the same way.”

259. This explanation does not demonstrate “careful” reading. Rather, it demonstrates once more the elevation of keywords (in this case, “composites,” “enhanced performance,” “lower acquisition costs,” and “improved reliability”) over context (“Air Force weapon systems”). As the United States has pointed out, military missions differ markedly from the “mission” of large civil aircraft, which means that they have different technology needs and typically require different production processes.²⁸² CRA itself concedes that military aircraft have numerous unique characteristics that require the development of technologies that do not find use on large civil aircraft, and that such research should be excluded from its analysis.²⁸³ Thus, there is simply no basis to assume that technologies leading to “enhanced performance, lower acquisition cost, and improved reliability” in a weapons system will benefit civil aircraft at all,²⁸⁴ let alone “in the same way,” as CRA asserts.

260. Therefore, CRA has failed to demonstrate that it performed a “careful reading” of DoD RDT&E budget materials that would justify the conclusions it asks the Panel to reach. The examples it provides in its defense only cast further light on the inconsistency and superficiality of its approach to the question.

²⁸⁰ Exhibit EC-1176, p. 28.

²⁸¹ Exhibit EC-1176, p. 29.

²⁸² US SWS, paras. 208-211; Statement of Michael Bair, paras. 26-27 (Exhibit US-7).

²⁸³ Exhibit EC-1176, pp. 5-6. In fact, even with these concessions, CRA greatly exaggerates even the theoretical extent of dual-use technology.

²⁸⁴ The EC likes to point out that the concept of a “weapons system” includes military aircraft. However, it does not include civil aircraft, which are not designed with any military mission in mind.

261. CRA’s second assertion is that “a simple keyword search would have resulted in significantly higher funding estimates related to dual-use than the ones actually calculated by CRA.”²⁸⁵ As support for this proposition, CRA notes that it did not include in its analysis *all* the line items that referenced the word “composite,” and even excluded the majority of composites-related line items from its evaluation of the “Advanced Materials for Weapons Systems” PE.²⁸⁶ The United States does not question CRA’s arithmetic. However, the fact that CRA excluded *some* composites-related research from its tally does not mean that it excluded *enough*. And, that fact does nothing to rebut the U.S. demonstration that CRA included *too much*.²⁸⁷

262. CRA’s third assertion is that “a review of the PE descriptions related to composites included in the CRA analysis further reveals the generic (i.e., not specific to military) applicability of the research to LCA.”²⁸⁸ CRA attempts to defend its “generic research” conclusion by quoting five descriptions from among the program elements challenged by the EC.²⁸⁹ The United States does not dispute that the terms appearing in those descriptions are generic. Our dispute is with the proper conclusion to draw from the use of such terms. CRA contends that generic terms demonstrate the existence of “obvious similarities to LCA” and “numerous applications” with “benefits . . . not limited to military aircraft.”²⁹⁰ In essence, CRA argues that, absent any other indication, it (and the Panel) can presume that the use of generic terms means joint applicability to large civil aircraft.

263. However, the EC, as a complaining party, bears the burden of proof and cannot simply rely on a presumption unsupported by the facts. As the party contending that DoD engages in a particular amount of research into dual-use technologies, the EC (and its consultants) must put forward a *prima facie* case – “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.”²⁹¹ Instead of doing so, CRA *presumes* that the DoD research efforts described in generic terms pertain to dual-use technologies. This approach would not make a *prima facie* case in any event. It is even less sustainable when the evidence demonstrates that DoD research has a military objective, and that military research does not have widespread applicability to civil aircraft.

²⁸⁵ Exhibit EC-1176, p. 29.

²⁸⁶ The United States notes the implication that CRA did include the majority of references to “composites” in the other program elements.

²⁸⁷ The research discussed in the response to this question provide several examples of composites-related research that meet CRA’s own criteria for exclusion.

²⁸⁸ Exhibit EC-1176, p. 29.

²⁸⁹ Exhibit EC-1176, p. 30.

²⁹⁰ Exhibit EC-1176, p. 30.

²⁹¹ EC – Hormones (AB), para. 104

208. *With respect to its argument that "CRA disregards the military purpose of DoD research" (US Comments on EC RPQ1, para. 5), can the United States address the following arguments made by the European Communities and its consultants:*

264. CRA's disregard for the military purposes of DoD research is clear and unqualified. It recognizes that all DoD research has a military objective, but simply dismisses that fact as "irrelevant." The five arguments referenced by the Panel are different facets of an overall effort to justify this disregard. For ease of cross-reference, the United States will designate them arguments (a), (b), (c), (d), and (e). The five arguments attempt to support three assertions: *first*, that DoD RDT&E has resulted in technologies actually used on large civil aircraft (argument (a)); *second*, that it is not impossible to use military technologies on large civil aircraft (arguments (b) and (c)); and *third*, that technologies developed under DoD RDT&E projects *could* theoretically be used to produce large civil aircraft (arguments (d) and (e)).

265. However, the EC has failed to provide any evidence that current Boeing aircraft actually used technologies funded through DoD RDT&E contracts in any significant way. The only evidence it does provide in this regard dates back nearly 60 years to civil aircraft that were discontinued long ago. That is not to say that "dual-use" technologies are a complete fiction. DoD and the United States have always recognized the existence of a small number of such technologies. Thus, the EC's arguments that civil use of military technology is "not impossible" make a point that no one disputes. The flaw with these arguments is that "not impossible" supports neither the EC assertion that dual-use technologies are widespread nor the assertion that their existence means that DoD RDT&E contracts confer a benefit, let alone more than \$2 billion, to Boeing's large civil aircraft. Similarly, the observation that some DoD research involved technologies that *could* be used on large civil aircraft does not justify the EC's conclusion that such technologies were numerous and were actually used to produce the 787.

(a) *"DOD RDT&E PEs have given rise to LCA-related technologies, regardless of their purported military purpose"; (EC SWS, paras. 413- 424)*

266. The United States explained in its first written submission that there are a number of reasons why DoD RDT&E funded through the 23 PE numbers challenged by the EC did not produce technology that was applied to large civil aircraft. The most important is that the missions of military aircraft differ greatly from the transport "mission" of civil aircraft, differences that drive DoD to research technologies that are rarely applicable to large civil aircraft.²⁹² Moreover, the U.S. civil sector spends far more on R&D than does DoD, which means that it tends to reach technologies with civil application ahead of DoD.²⁹³ There are some small areas of overlap, which produce "dual-use" technologies, but in these areas, DoD generally tries to use the potential civil application to motivate commercial companies to contribute their

²⁹² US FWS, paras. 130 and 139-143; Statement of Michael Bair, paras. 26-27 (Exhibit US-7); US SWS, paras. 52-53 and 208-212; *infra*, response to Question 208, final subquestion.

²⁹³ US FWS, para. 124.

resources to lessen DoD's cost of reaching its military objective.²⁹⁴ And, finally, as a practical matter, U.S. export control laws preclude the use of military technology on large civil aircraft.²⁹⁵

267. The United States also showed that the EC's efforts to draw a link between DoD RDT&E and the technologies used on the 787 used invalid reasoning and evidence that did not support the conclusions the EC tried to reach. The foundation of the EC's conclusions was an analysis by its consultant, CRA, that purported to link DoD's descriptions of technology funded by 23 program elements to technology with civil applications. The United States pointed out that CRA ignored explicit statements that the technology had military applications.²⁹⁶ The United States further observed that CRA's "justifications" for concluding that research had civil applications relied on a presumption, unsupported by any evidence, that if CRA could think of a *possible* civil application for research, it must have *actually* resulted in an application.²⁹⁷ However, *possible* does not equal *actual*, especially for the party bearing the burden of proof, as the EC does, to establish a *prima facie* case. The United States has, in fact, presented statements from Boeing engineers responsible for the 787 that they did not use technologies developed under DoD RDT&E contracts to develop or produce the 787.²⁹⁸

268. In this segment of its second written submission, the EC attempts to rehabilitate CRA's analysis and highlight evidence that, in the EC's view, shows that Boeing used technology funded through the 23 PE numbers on the 787. Its efforts are unsuccessful. The EC cannot escape the fact that CRA relied on assumptions, rather than evidence. It cannot avoid the fact that the military aircraft it highlights are simply too different from civil aircraft to have produced technology applicable to the 787.

269. The following analysis addresses each of the points raised by the EC in this segment of its second written submission. To assist the Panel, each comment contains a reference in bold to the portion of the EC submission that it addresses.

270. **EC SWS, paras. 414 and 415.** The United States noted in its first written submission that CRA failed to make any allowance for the fact that much of the challenged DoD RDT&E activity had explicit objectives of the development of weapons or use in other military endeavors. The EC attempts to defend CRA's disregard for these goals by accusing the United States of "selective emphasis"²⁹⁹ in highlighting the military or weapons orientation of many of the research areas that CRA counts as having civil application. As an example, the EC notes that

²⁹⁴ US FWS, paras. 125-126 and 132-138.

²⁹⁵ US FWS, paras. 166-176.

²⁹⁶ US FWS, paras. 129-130.

²⁹⁷ US FWS, para. 130; US SWS, para. 9; U.S. Comments on EC RPQ1, para. 5.

²⁹⁸ Statement of Michael Bair.

²⁹⁹ As a general matter, the United States finds the EC criticism odd, as emphasis that is not "selective" is not emphasis at all.

the United States used the following quotation from a description of DoD’s research objective to demonstrate its military focus and consequent lack of relevance to civil aircraft:

... seeks to develop a fundamental understanding of the behavior of aerospace materials, structures, and supporting facilities, leading to a cost-effective development and safe reliable operation of *superior weapons and defensive systems*.³⁰⁰

The EC argues that the emphasis should instead be on the reference to “fundamental understanding of the behavior of aerospace materials, structure, and supporting facilities,” which it apparently views as proving dual use for any resulting technologies. It misses the U.S. point that one half of this description cannot be read without the other. That is exactly what the EC (and CRA) seek to do, on the ground that “the military nature of DoD’s RDT&E projects is entirely irrelevant to the issues before the Panel.”³⁰¹ However, CRA concedes that military aircraft have unique missions, requiring performance capabilities irrelevant to civil aircraft, and relying on technologies and underlying research that have no applicability to large civil aircraft.³⁰² Therefore, DoD’s military or weapons objective is critical because it indicates at least some probability that the research and its results will not be applicable to large civil aircraft, and invalidates any assumption of such applicability.

271. In fact, the military nature of the research is even more critical than CRA admits because, as the United States has already shown and discusses in more detail below, CRA greatly overstates the overlap between civil and military technologies. Description of research as “fundamental” or involving “aerospace” does not justify treating it as “civil” or related to “large civil aircraft” because even fundamental principles for weapons systems are often irrelevant to civil aircraft.³⁰³ The relationship becomes even more tenuous when the research addresses “aerospace” topics, which could relate to rocketry, missiles, rotorcraft, unmanned aircraft, small aircraft, large aircraft, or even blimps.

272. The EC also tries to manufacture a connection between weapons and large civil aircraft by asserting that the United States “conveniently neglects to inform the Panel that DoD refers to aircraft as ‘weapons systems’.”³⁰⁴ This statement is untrue in two senses. The United States has never hidden the fact that aircraft like the fighters, bombers, and military transport aircraft are weapons systems.³⁰⁵ But the inclusion of military aircraft among “weapons systems” does not

³⁰⁰ EC SWS, para. 415, quoting US FWS, note 169, quoting PE0601102F, Project 2302 (emphasis in US FWS).

³⁰¹ EC SWS, para. 413.

³⁰² Exhibit EC-1176, pp. 5-6 and 29.

³⁰³ The U.S. response to Question 208(e) explains this point in greater detail.

³⁰⁴ EC SWS, para. 415.

³⁰⁵ E.g., US FWS, paras. 130 and 139-144.

imply that the same term encompasses large civil aircraft, as the EC suggests. In fact, a civil aircraft, such as a 737, 747, 767, or 787 is not a weapons system.³⁰⁶ Thus, when DoD describes research as directed at weapons systems, it means a class of items that *excludes large civil aircraft*.

273. In short, because the EC and CRA either ignore the military objective of DoD research or treat it as “irrelevant,” their conclusions fail to account for the fact that, even under their own admission, military research and technology frequently have no application in the civil sector. Therefore, their analysis based on unsupported assumptions does not create a *prima facie* case – one that “requires a panel, as a matter of law, to rule in favour of the complaining party”³⁰⁷ – that DoD RDT&E activities funded through the 23 challenged PE numbers created technology with a civil application.

274. **EC SWS, para. 416.** In a similar vein, the EC argues that although the ManTech Program had a “military focus,” two projects under that program resulted in composite fiber placement technologies and a Composites Affordability Initiative Cost Analysis Tool (“CAICAT”) used on the 787. The EC misses the point that the ManTech program was one of the rare instances of a research effort that specifically sought to leverage civil efforts to a military objective. This program is not evidence that a large portion of DoD’s research has civil application, but rather that in the limited realm of research involving recognized dual-use technology, DoD operates differently. Boeing’s work on the Composites Affordability Initiative was through Other Transaction Agreements, under which it contributed its own resources toward DoD’s objectives.³⁰⁸ It was required to share the results of its work with other private entities – companies that might compete with it in the future.³⁰⁹ DoD’s objective was not, as the EC alleges, to move the technology to civil applications, but rather to use civil participation to offset the costs necessary to develop a technology for military use. The 787 similarly started with commercial technologies and further developed them for the particular design of the aircraft.³¹⁰

³⁰⁶ In fact, a detailed listing of weapons systems currently purchased by the U.S. armed forces presents 39 pages on various aerospace equipment, which does not include large civil aircraft. DoD, Program Acquisition Cost by Weapons System, pp. 6-45 (Feb. 2006) (Exhibit US-1274). It does reference the KC-X, a tanker that derived from a civil airframe. (Exhibit US-1274), p. 24. However, the reference only serves to show the significant difference between military and civil applications. Even when a military transport’s mission overlaps the capabilities of a large civil aircraft to some extent, it still requires expenditure of large amounts of funds and effort to produce an aircraft capable of satisfying the military need.

³⁰⁷ *EC – Hormones (AB)*, para. 104

³⁰⁸ Other Transaction F33615-98-3-5103 (Composites Affordability Initiative, Phase II, Pervasive Technology) (Exhibit US-624); Other Transaction F33615-98-3-5104 (Composites Affordability Initiative, Phase II, Pervasive Technology) (Exhibit US-614).

³⁰⁹ *E.g.*, Other Transaction F33617-98-3-5103, pp. 12-13/133.

³¹⁰ Statement of Michael Bair, paras. 27, 41, 43-45, 49-50, and 57 (Exhibit US-7).

275. **EC SWS, para. 417.** In its previous submissions, the United States demonstrated why the distinct military missions of the F/A-18 fighter, V-22/CV-22 tiltrotor, Joint Strike Fighter (“JSF”), and C-17 transport meant that Boeing’s efforts on those weapons systems “were primarily directed to achieving capabilities that were not relevant to large civil aircraft.”³¹¹ The EC attempts to rebut this demonstration by citing eight pages of a supplemental presentation prepared by CRA and submitted as Exhibit EC-1176, and quoting some of CRA’s assertions. However, the consultants’ efforts to rehabilitate their analysis only serve to expose more flaws. As CRA attempts to make a number of different points, the following section addresses them in sequence.

- CRA asserts that Boeing’s loss of the JSF contract benefited large civil aircraft because of the “experience” the company supposedly gained from the work, particularly when the JSF program manager transferred to work on the 7E7 program.³¹² On a conceptual level, this is one example of a favorite EC theme – that “experience” gained from work on government projects becomes a “benefit” for purposes of the SCM Agreement when an enterprise turns to private work. This is a nonsensical argument. When an enterprise does work for one customer, it always gains some degree of “experience” applicable to its later business dealings. The same holds true for its employees, like Frank Statkus. That normal commercial development of experience does not somehow become evidence of a benefit just because the government is the customer.³¹³ Accepting such an argument would mean that no enterprise engaged in work with a WTO Member government could engage in commercial work without fear of generating a dispute under the SCM Agreement with regard to the supposed benefit of its government “experience.” Nor is the accrual of experience evidence that one customer’s work has “dual use” for another customer. It merely reflects that on any task, an enterprise and its employees develop knowledge about problem solving that is applicable in other sectors.³¹⁴ The EC is also wrong on a factual level, in that nothing in the sources it cites indicates that Boeing used technology

³¹¹ US FWS, para. 139.

³¹² Exhibit EC-1176, pp. 23-24.

³¹³ In any event, Boeing pays a price for Frank Statkus’ expertise in the form of his salary. It could have gained comparable expertise at the same price by hiring an employee with comparable expertise from another enterprise, as it did in hiring Branko Sarh, a former Airbus employee. *E.g.*, Affidavit of Branko Sarh (Exhibit US-1256). In fact, EADS, Airbus’ parent corporation, hired Ralph Crosby, a former Northrup Grumman executive, to head its U.S. operations. Crosby unquestionably gained valuable experience from his work on government contracts in that position. EADS N.V., “Ralph D. Crosby, Jr.” (Exhibit US-1306).

³¹⁴ CRA also quotes the article as saying that the JSF work “helped lay the foundation for what is taking place on the 7E7.” Exhibit EC-1176, p. 19. This statement merely summarizes the impressions of the author of the article regarding the experience he believes Boeing accrued through that program, and makes no independent observation. James Wallace, “On the 7E7, New Materials and a New Way of Viewing Work,” *Seattle Post-Intelligencer* (June 1, 2004) (Exhibit EC-463).

developed under the JSF contract on the 787. (The United States discusses this point in more detail below.)

- CRA also notes the use on the JSF program of “the same kinds of software tools that will be used on the 7E7.”³¹⁵ However, the use of similar “tools” indicates nothing about whether the resulting research product has uses beyond a particular program.³¹⁶ CRA also fails to reveal that the “software” in question is CATIA, a commercial system owned by French aerospace producer Dassault Systèmes and used by numerous U.S. and foreign enterprises, including Boeing.³¹⁷ Thus, it is not a technology developed by the military or the result of DoD RDT&E. And, while the use of that software and refinements to it in both military and civil applications is one rare example of a dual-use technology, it represents a transition from civil to military, not the other way around, as CRA asserts. This example does not change the U.S. conclusion that technologies *developed under the F/A-18, V-22/CV-22, JSF, and C-17* programs were “primarily directed to achieving capabilities that were not relevant to civil aircraft.”³¹⁸
- CRA also tries to forge a link between Boeing’s failed JSF bid and the 787 based on quotations from Boeing officials. It notes, correctly, that Boeing’s then-CEO Phil Condit judged that the company’s learning from its failed JSF bid was “phenomenal . . . including new ways of designing our products, innovative approaches to dramatically reduce tooling, and ground-breaking new methods of manufacturing.”³¹⁹ However, the only JSF “lesson” that CRA’s evidence mentions as relevant to the 787 is the CATIA-based design process.³²⁰ It is significant that this software work is the *only* example of a JSF technology relevant to civil aircraft that Boeing cites in an article emphasizing a multitude of military applications.³²¹ Thus, Boeing does *not* recognize the JSF research as

³¹⁵ Exhibit EC-1176, p. 19.

³¹⁶ For example, the use of a microscope to look at a bacterium would not produce results relevant to the microscopic evaluation of metal fatigue.

³¹⁷ James Wallace, “On the 7E7, New Materials and a New Way of Viewing Work,” *Seattle Post-Intelligencer*, p. 2/4 (June 1, 2004) (Exhibit EC-463); Statement of Michael Bair, para. 66.

³¹⁸ Boeing does develop experience in working with CATIA and refining it to company needs each time it applies the software to an aircraft design, whether military or civil. However, this is exactly the sort of experience that accrues during the course of any commercial activity, and is not a civil application of military technology.

³¹⁹ Exhibit EC-1176, p. 24, quoting William Cole, “The Value of Lessons Learned,” *Boeing Frontiers*, p. 4/6 (Exhibit EC-464).

³²⁰ William Cole, “The Value of Lessons Learned,” *Boeing Frontiers*, p. 5/6 (Exhibit EC-464).

³²¹ William Cole, “The Value of Lessons Learned,” *Boeing Frontiers*, p. 4-5/6 (citing the F/A-18E/F, the X-45A demonstrators, and the X-37 reusable spaceplane, military air and space vehicles, as taking a broader array of benefits from the JSF – rapid prototyping, timely two-way customer briefings, virtual reality reviews, and avionics systems) (Exhibit EC-464).

having any applicability to the avionics or composite primary structures of the 787, as the EC alleges,³²² let alone view 40 percent of the airframe research, 25 percent of the avionics research, and 20 percent of systems engineering and program management research as directly applicable to the 787, as CRA alleges.³²³

- CRA argues that several quotations from U.S. government documents “disprove the notion that dual-use technologies do not provide a flow of benefits to commercial products.”³²⁴ The quotations make the unsurprising observation that dual-use technologies have uses in both civil and military applications³²⁵ – a point the United States has never disputed. With regard to the applicability of dual-use technologies in the civil sector, that is the entire point. The civil applicability is what allows DoD to leverage commercial companies’ expertise and gain their contribution to projects through cooperative agreements and OTAs. When the rules require use of a procurement contract because research has a direct benefit to DoD, a potential civil application will spur bid competition and may result in a cheaper, no-fee contract. In any event, the mere existence of a civil application indicates nothing about whether the private participant had the use of that civil application “on terms more favourable than those available to the recipient in the market,”³²⁶ and, therefore, does nothing to support CRA’s assertion regarding the “flow of benefits.”
- CRA next observes that the B-47 bomber, which first flew in 1947, introduced new jet design concepts that influenced future jet aircraft in both the civil and

³²² EC SWS, para. 432.

³²³ Exhibit EC-7, pp. 21-23.

³²⁴ Exhibit EC-1176, p. 20.

³²⁵ The Panel should note that an examination of the complete documents, which the EC did not submit, shows that CRA has greatly exaggerated the applicability of these technologies to civil aviation. The DoD description of friction stir welding notes that the technology had applicability to “aircraft, civil structures, and other major assemblies,” and was of interest to “automotive, aircraft, space, and ship-building industries” – scarcely an effort to benefit civil aviation in general or Boeing in particular. AFRL Materials and Manufacturing Directorate, *Friction Stir Welding Provides Advantages Over Conventional Fusion Welding Process* (Exhibit US-1275). The discussion of metallic glasses makes no mention of Boeing, and even CRA recognizes that the technology is not particular to aviation, but benefits “industry in general.” AFRL Materials and Manufacturing Directorate, *Advancements In Predicting Metallic Glasses Composition Aid Future Technologies* (Exhibit US-1276). The DoD description of cast titanium structures reveals that a consortium of 15 companies participated in the project, and that Boeing’s major partner was Howmet Castings. AFRL Materials and Manufacturing Directorate, *Thin Wall Cast Titanium Components Simplify Manufacturing Processes, Reduce Weight, And Could Save the Air Force Millions of Dollars* (Exhibit US-1277). There can scarcely be any intent to aid Boeing, as Howmet Castings is an Alcoa subsidiary that in 2004 became a major supplier to Airbus’ A380. Alcoa News Release, *Airbus, Alcoa Recognize Partnership on the Airbus A380 At Alcoa Howmet Castings in Whitehall, MI* (Oct. 18, 2004) (Exhibit US-1278).

³²⁶ *Canada – Aircraft (AB)*, para. 158.

military sectors, leading directly to the B-707 aircraft.³²⁷ It is telling that CRA needed to reach back 60 years for this example. As the United States observed in the first written submission, technology may have transitioned from military to civil sectors during World War II and at the beginning of the Cold War, when the U.S. government greatly outspent the civil sector in research.³²⁸ Those ratios have reversed, and today private industry outspends DoD by ratios between two-to-one and five-to-one.³²⁹ Thus, DoD aircraft designs no longer become civil aircraft. In fact, the reverse occurs. When an aircraft's military mission overlaps the capabilities of a civil aircraft, contractors typically meet the requirements by taking an unfinished (or "green") civil airframe and "militarizing" it by the addition of mission-specific military equipment. Recent examples include the U.S. Navy's P-8, an aerial search aircraft built from a 737 airframe, and the aerial refueling tankers that DoD plans to base on large civil aircraft. Thus, the role of the B-47 bomber in early civil jet aviation and the absence of any similar story today only serve to emphasize that the technology flow today moves from civil to military much more often than in the other direction.

- CRA attempts to draw a modern parallel to the B-47 by noting that the Air Force and NASA have been researching a configuration known as the "blended wing body" ("BWB").³³⁰ However, it concedes that most observers question the use of this design for passenger aircraft, and that Boeing explicitly rejected its use when evaluating the Sonic Cruiser. CRA attempts to counter this evidence of rejection by citing an article allegedly forecasting a "commercial freighter variant of the BWB to be available as early as 2015, with a potential passenger version to follow by 2017."³³¹ In fact, what the article actually says is that this would occur only "if Boeing Commercial Aircraft (BCA) would overcome its long-stated reluctance to the BWB."³³² Thus, CRA presents nothing but speculation, a stark contradiction of its assertion that the BWB actually "has well-documented applications in the commercial aircraft market."
- Finally, CRA attempts to link research related to the C-17 with large civil aircraft. Its first point is that the C-17 is more similar to large civil aircraft than are other

³²⁷ Exhibit EC-1176, pp. 21-22.

³²⁸ US FWS, para. 124.

³²⁹ US FWS, para. 124.

³³⁰ Exhibit EC-1176, pp. 22-23.

³³¹ Exhibit EC-1176, p. 23, quoting Scott Hamilton, "Boeing says it has a customer for BWB Cargo version" (June 6, 2007) (Exhibit EC-1210).

³³² Scott Hamilton, "Boeing says it has a customer for BWB Cargo version," p. 2 (June 6, 2007) (Exhibit EC-1210). A recent article states that "the BWB concept is not in Boeing's current 20-year market outlook." "Boeing Flies Blended Wing Body Research Aircraft," *Alabama Aviator* (July 26, 2007) (Exhibit US-1306).

military aircraft.³³³ The United States has itself noted that the C-17's mission "sounds similar" to that of large civil aircraft and "overlaps civil aircraft's function" to some extent.³³⁴ However, the United States has also noted that the C-17 has a number of features irrelevant to large civil aircraft – landing at undeveloped airfield, armor, and parachuting³³⁵ – and that these were the areas on which DoD's research focused.³³⁶ CRA does not dispute these points. However, it does go on to assert that Boeing is "closer than ever" to launching a commercial version of the C-17 (known as the "BC-17") and that this demonstrates the commercial applicability of C-17 research. However, as even CRA's evidence shows, Boeing has been about to launch the BC-17 for more than eight years already³³⁷ and still has no buyers. This silence from commercial customers speaks volumes about the civil applicability of the technologies developed for the C-17.

276. **EC SWS, para. 418.** The EC also tries to prove commonality between DoD RDT&E and commercial research by asserting that "fundamental research" is at issue in this dispute, and has "*both* military *and* civil applications." It argues that CRA has demonstrated this point, and that the United States has failed to provide expert testimony or evidence to rebut this point. This statement is wrong in every regard. In the first place, much of the research challenged by the EC goes far beyond "fundamental research." In fact, research directed at developing or improving specific military aircraft represents the largest component of its claim regarding DoD RDT&E – \$3.1 billion out of \$4.3 billion in alleged non-engine dual-use RDT&E with Boeing.³³⁸ As for whether CRA's analysis establishes civil application for the challenged research, the United

³³³ Exhibit EC-1176, pp. 25-26.

³³⁴ US FWS, para. 143; US SWS, paras. 209-210.

³³⁵ US FWS, para. 143.

³³⁶ US SWS, para. 210. It is worth noting that, in addition to increasing the production cost, their extra features increase operating costs, because armor and the heavy landing gear needed to land at poorly developed airfield (among others) add weight and, therefore, decrease fuel efficiency.

³³⁷ A 2001 article cited by CRS states "{p}lans to launch the BC-17X over the last couple of years have generated a lot of interest but no buyers." John Morris, "Proponents of the Commercial BC-17 Take a Cue from Business Jet Sector," *Aviation Week* (June 17, 2001) (Exhibit US-1279).

³³⁸ Exhibit EC-25, p. 20. The PE numbers used by DoD contain codes to categorize funding. The first two digits indicate the program: "02" for general purpose forces, "04" for mobility forces and "06" for research and development. Within those categories, the third and fourth digits contain the "activity code," indicating the type of research activity. Under DoD's system, fundamental research falls under "basic research," coded as a "01." However, the V-22, CV-22, JSF, F/A-18, and C-17 codes were all either "03" (advanced technology development) or "04" (advanced component development and prototypes) that "should have the goal of moving out of Science and Technology (S&T) and into the acquisition process" or "expedite technology transition from the laboratory to operational use." DoD Financial Management Regulation, Volume 2B, Chapter 5, June 2006, pp. 5-2 and 5-3 (Exhibit EC-1324), Exhibits EC-433, EC-435, EC-436, EC-437, and EC-438. The C-17 in later years was assigned an activity code of "01," but characterized as "operational systems development." Exhibit EC-438, p. 121/125.

States has shown that, whatever CRA’s level of expertise, its reasoning is superficial and unsupported by the evidence on which it relies. Moreover, the EC’s criticism of the evidence on which the United States relies is simply wrong. The United States has provided compelling evidence that military R&D is only rarely applicable to large civil aircraft. But, more importantly, the United States has explained how *the EC’s evidence* actually supports the United States. The EC faults the United States for not providing its own “expert testimony,” but the DSU does not provide for “testimony” of any sort, let alone require it of a party seeking to meet its burden of proof to do so based on the opinions of “experts.”

277. **EC SWS, para. 419.** The only new point in this paragraph is the EC’s observation that former Boeing CEO Harry Stonecipher said in a speech in 1997 that “certain technologies developed in military aircraft (such as heavy use of advanced composites) will be needed in the commercial aircraft world”³³⁹ However, the ellipsis leaves out critical information – that this future need would manifest itself “. . . with the eventual emergence of large supersonic commercial jets capable of flying across both oceans.”³⁴⁰ Thus, the need evinced by Mr. Stonecipher is not “very real,” as the EC asserts, but strictly hypothetical, based on the “eventual” emergence of an aircraft (large supersonic jets) that was not imminent then, and is not part of any aircraft producer’s plans now.

278. **EC SWS, para. 420.** In this paragraph, the EC cross references portions of Annex C to its first written submission, which in its view demonstrate that Boeing gained “extensive knowledge and experience with regard to composites technologies” from DoD RDT&E contracts, which it “is applying on the 787.” It asserts that the United States has “not even attempted to rebut” these arguments.

279. To begin with, the paragraphs cross-referenced here primarily rehash points raised elsewhere in the EC submissions, which the United States has addressed in those contexts. In particular, they attempt to argue that “knowledge, experience, and confidence” gained while working on DoD RDT&E contracts somehow provided a non-commercial advantage to Boeing’s production of civil aircraft. The United States has shown elsewhere that the accrual of knowledge, experience, and confidence occurs in any commercial transaction, so it cannot by itself constitute treatment better than available in the market.³⁴¹ It is distinct from the actual application of a technology in both sectors that gives rise, in a limited instances, to a true “dual use” technology.

³³⁹ EC SWS, para. 219, *quoting* Speech by Harry C. Stonecipher, “The Magnificent Seven (or any other Number: Learning to Think & Act as One,” Huntington Beach Management Club, p. 4/5 (Oct. 15, 1997) (Exhibit EC-1217).

³⁴⁰ Speech by Harry C. Stonecipher, “The Magnificent Seven (or any other Number: Learning to Think & Act as One,” Huntington Beach Management Club, p. 4/5 (Oct. 15, 1997) (Exhibit EC-1217).

³⁴¹ US SWS, para. 50, US Comments on EC RPQ1, paras. 91-93.

280. For the sake of completeness, the following goes paragraph by paragraph, explaining where the United States has previously addressed the specific issues raised, and adding further comments as appropriate.

- **EC FWS, Annex C, para. 31.** The discussion below of paragraph 422 of the EC SWS addresses the points raised in this paragraph.
- **EC FWS, Annex C, para. 32.** The United States addressed the Composites Affordability Initiative in paragraph 137 of its FWS. The discussion below of paragraph 422 of the EC SWS addresses the quotation in this paragraph. Paragraphs 124-127 of the US FWS explained that the Dual Use Science & Technology (“DUS&T”) Program was an effort by DoD to leverage commercial research spending to DoD objectives, and not a means to fund private research. The discussion below of paragraph 431 explains why the DoD contracts referenced here either did not have civil application or serve to prove the U.S. observation that even theoretically dual-use technology is quite rare.
- **EC FWS, Annex C, para. 33.** Paragraphs 139-143 of the U.S. FWS³⁴² explain why technologies developed for the V-22, F-22, and JSF were not applicable to Boeing’s civil aircraft. The discussion below of paragraph 421 of the EC SWS addresses the Scott Carson quotation.
- **EC FWS, Annex C, para. 34.** The discussion of paragraph 421 explains how the EC improperly combined statements made by Boeing engineer Frank Statkus many years apart, and that the statements do not show the migration of technology from military to civil applications.
- **EC FWS, Annex C, para. 46.** Paragraphs 124-127 and 132-138 of the US FWS explain how the DUS&T and ManTech programs leveraged civil technologies for military applications, and not to confer any benefit on the civil sector. The references to the V-22 and JSF programs fall into the category of knowledge and experience gained under a contract, which the United States has explained elsewhere do not confer a benefit.³⁴³ Moreover, as military aircraft, any technology developed for them would only rarely be applicable to civil aircraft.
- **EC FWS, Annex C, paras. 49-51.** The references to the V-22 and JSF programs fall into the category of knowledge and experience gained under a contract, which

³⁴² Further information on this point appears in the first, second, and sixth points of the U.S. comments on paragraph 417 of the EC SWS, above; the U.S. comments on paragraph 434 of the EC FWS, below; and the response to the fifth point of this question.

³⁴³ US SWS, para. 50, US Comments on EC RPQ1, paras. 91-93.

the United States has explained elsewhere do not confer a benefit.³⁴⁴ The EC notes that production of the V-22 and 787 both involve use of a collapsible rotating notched mandrel, and provides an exhibit juxtaposing pictures of the mandrels.³⁴⁵ However, an engineer would notice immediately that the two differ in critical respects. The designs of the V-22 and 787 differ significantly and, accordingly, so do the shapes of the mandrels. The notches have different configurations, thickness, and complexity, reflecting the fact that each of the two types of aircraft have very different stringer placement. These differences mean that the design work on the V-22 mandrel is not applicable to the 787 mandrel. Each was developed separately for exclusive use on its unique aircraft.

- **EC FWS, Annex C, para. 62.** In this paragraph the EC asserts, based on a news article, that the specifications for aligning and drilling holes in multiple layers of composite materials on the 787 “derive from DoD-supported R&D that Boeing conducted for the B-2 programme.” To the contrary, the article states that “{u}sing such borrowed knowledge is not allowed under federal International Traffic in Arms Regulations.”³⁴⁶ It recounts one instance in which a junior employee mistakenly copied B-2 data and was reproached by supervisors, who had to “perform{ } new tests and develop{ } a fresh set of guidance data to replace the legally tainted B-2 data.”³⁴⁷ Thus, although the news article categorizes the replacement process as “easy,” it makes clear that Boeing did not use the B-2 data at all, but had to develop a new data set.
- **EC FWS, Annex C, para. 63.** The United States has addressed the many flaws with CRA’s analysis.³⁴⁸ Therefore, it already rebutted the points made in this paragraph, which rest entirely on the CRA analysis.

281. **EC SWS, para. 421.** The EC tries to link military research to technologies applied on civil aircraft by quoting Boeing officers’ statements that, in the EC’s view, show that Boeing derived “extensive knowledge and experience with regard to composite technologies from DoD RDT&E, which it is applying on the 787.”³⁴⁹ As the United States has noted, the fact that a project builds “knowledge” or “experience” does not mean that it produces a “dual-use”

³⁴⁴ US SWS, para. 50, US Comments on EC RPQ1, paras. 91-93.

³⁴⁵ Exhibit EC-14, p. 61.

³⁴⁶ Dominic Gates, “How B-2 data wound up in 787 program,” *The Seattle Times* (Jan. 22, 2006) (Exhibit EC-410).

³⁴⁷ Dominic Gates, “How B-2 data wound up in 787 program,” *The Seattle Times* (Jan. 22, 2006) (Exhibit EC-410).

³⁴⁸ US FWS, paras. 128-130 and 139-144; US RPQ1 para. 9, U.S. Comments on EC RPQ1, para. 5, US OS2, paras. 22-25.

³⁴⁹ EC SWS, para. 420.

technology applicable in another area. Moreover, the quotations do not support the EC's assertion that the technology developed in particular DoD RDT&E projects is applicable to large civil aircraft. The first comes from Scott Carson, a Boeing executive, who said that:

We've done a lot of work in composites reaching all the way back into the 1960s. Certainly our work on the V-22, the B2 bomber, the F-22 and the Joint Strike Fighter convinced us that there are ways to use composites that allow you to take a lot of cost out of the production of hardware. Our chosen method is to spin it. They looked at that same data and they've come to a different conclusion. That's what makes it a horse race.³⁵⁰

This quotation indicates only that Boeing's general experience (including with military contracts) suggested the possibility of spinning composites in a cost-effective way – a possibility known as well to Airbus because all of the composite technologies had been general industry knowledge for years.³⁵¹ Mr. Carson nowhere states that Boeing used techniques developed under these programs on the 787 (as the EC asserts). In fact, evidence submitted by the United States shows that the composite technology used on the 787 came from Boeing's commercial experience and external, commercial sources.³⁵²

282. The EC then attempts to create the impression of technology transfer by combining two statements from two separate articles (written nine years apart) into a single sentence to assert that Boeing “‘infused’ . . . technology and process experience from the JSF programme into the 787.” However, the sources cannot legitimately be combined in this way. In a 2004 news article, Frank Statkus in his role with the 7E7 program, discussed how the aircraft would use a “new system” in which “every bit of the aircraft, and all of the assemblies supplied by Boeing partners, will all be supported by the same Catia-based database.” The article noted that Mr. Statkus “led the design for Boeing’s Joint Strike Fighter using the same approach.” It then quotes him as saying “‘My job was to take what we learned there, and make sure we had it infused into the 7E7 program’.”³⁵³ However, the only JSF knowledge the article references as applicable to the 7E7 are the approach to database and organization. The article mentions nothing of the “technology” used to build the 787. Thus, it does not support the assertion that Boeing “infused” JSF technology into the 787. The other quotation appeared in a 1995 news release in which Mr. Statkus (then working on the F-22, a fighter) muses about how the “invaluable experience” from the F-22 program might help unnamed “future aircraft.”³⁵⁴ But, Mr. Statkus’ 1995 comment

³⁵⁰ Anthony Velocci and Joseph Anselmo, “interview With Boeing Commercial Airplanes CEO Scott Carson, p. 4/5 (Exhibit EC-446).

³⁵¹ Statement of Michael Bair, paras. 49-50, Affidavit of Alan Miller, paras. 6-7 and 21.

³⁵² Statement of Michael Bair, paras. 48-49.

³⁵³ All quotations from Steve Wilhelm, “Boeing tries new teams for 7E7 design,” *Puget Sound Business Journal*, p. 2/3 (April 12, 2004) (Exhibit EC-462).

³⁵⁴ Boeing News Release, “Boeing Begins Composite Fabrication of F-22 Wings,” (June 21, 1995) (Exhibit EC-447).

about the “invaluable experience” from the F-22 cannot be taken as evidence that such technology actually found its way into the 787 nine years later.

283. **EC SWS, para. 422.** The EC attempts to find further support for its contention that DoD research actually contributed to the use of composites on the 787, quoting a summary of work done under one DoD contract and citing to an Annex to its first written submission. Neither document supports the EC’s argument.

284. The summary states that Other Transaction F33615-98-3-5103, under which Boeing performed research for DoD’s Composites Affordability Initiative, had “enable{d} {the} design {and} manufacture . . . {of} an ‘all-composite’ airframe utilizing revolutionary design techniques.”³⁵⁵ In fact, the summary goes on to state that this is the “goal” of the project, and not that this result has already occurred, as the EC tries to imply by converting the quotation to the past tense. In any event, the quotation does not mention civil aircraft in general, or the 787 in particular, so it is difficult to understand why the EC believes that it demonstrates the existence of composites technology migration from DoD to the 787.

285. The contract itself, which the EC also submitted, further disproves the existence of a connection to the 787. The statement of work explains that

{t}he tools developed under the pervasive effort will be used to analyze the predicted performance of the structure and costs associated with manufacture. The initial migration opportunity is the Joint Strike Fighter. Additional opportunities will be identified as the initiative proceeds. These may include ships, large aircraft, and {unmanned air vehicles}.³⁵⁶

Again, no mention of civil aircraft. The contract later specifies that the long-term objective of the project is to produce “a new demonstration article” that “will be designed to meet the needs of future military weapons systems.”³⁵⁷ As the EC likes to note, the term “weapons system” does include military aircraft. However, it does not encompass large civil aircraft like the 787. Therefore, contrary to the EC’s argument, Other Transaction F33615-98-3-5103 does not support the contention that the 787 used DoD composites technology. And Michael Bair, the former head of 787 development at Boeing, has made clear that the company did not use technology developed under its DoD contracts in the development or production of the 787.³⁵⁸

³⁵⁵ EC SWS, para. 422, *quoting* U.S. Department of Defense Annual Report on Cooperative Agreements and Other Transaction Entered into During FY98 Under 10 USC 2371, p. 57 (Exhibit EC-516) (bracketing added by the EC).

³⁵⁶ Other Transaction F33615-98-3-5103, p. 28 (Exhibit EC-517).

³⁵⁷ Other Transaction F33615-98-3-5103, p. 35 (Exhibit EC-517).

³⁵⁸ Affidavit of Michael Bair, paras. 49 and 52 (Exhibit US-7).

286. The citation to the annex consists of an assertion that Boeing received “a number of multimillion dollar contracts to pursue research on composites technologies that have benefited the 787” and a statement that CRA proved this point in its initial report.³⁵⁹ The only support that the annex provides for these statements is a citation to Exhibit EC-7 (which contains CRA’s initial analysis) in its entirety and a list of contracts, with no basis for concluding that the subject matter relates to civil aircraft, let alone the 787.³⁶⁰ The contracts in question do not support this assertion. The U.S. response to the next subquestion in this question explains that the EC has exaggerated even the *theoretical* applicability to large civil aircraft of the research conducted under these contracts. However, there is nothing in these contracts to indicate a connection with a technology *actually used* on the 787, as the EC asserts.

287. **EC SWS, para. 423.** The EC concludes its efforts to show actual use of military technology on the 787 by asserting that it had already demonstrated that the “more electric architecture,” “enhanced aerodynamics and structural design,” “open systems architecture,” and “health management” of the 787 has military origin and that “the United States has not engaged on these issues.” The EC is wrong. The United States showed in its first written submission that the 787 “more electric” architecture, design, and open systems architecture was developed by suppliers (and available to Airbus), and did not rely on technology Boeing developed under its DoD RDT&E contracts.³⁶¹ The United States explained further that the health management systems were derived from proprietary 777 technology and supplied by Honeywell.³⁶² The EC SWS does nothing to address this detailed U.S. evidence that the 787 did not use technology derived from Boeing’s RDT&E contracts with DoD.

288. In sum, the EC fails in its efforts to demonstrate that research funded under the 23 challenged PE numbers actually gave rise to technologies related to large civil aircraft. In many cases, the evidence simply does not support the point the EC is trying to make. In most other cases, it has succeeded only in identifying the type of “knowledge, experience, and confidence” that suppliers normally bring from one commercial transaction to another, and not the derivation of “LCA-related technologies” from military research. In a few instances, the EC does identify explicit dual-use technology. However, such projects are small in number and value, and only serve to validate the U.S. observation that the EC has greatly exaggerated the amount and value of theoretically dual-use research funded by DoD.

(b) *"Differences between military and civil aircraft do not make it impossible for DOD-supported technologies to be applied toward LCA" (EC SWS, paras. 430-435)*

³⁵⁹ EC FWS, Annex C, para. 31.

³⁶⁰ EC FWS, Annex C, para. 31, notes 54 and 55.

³⁶¹ US FWS, para. 941; Statement of Michael Bair, paras. 58-68 (Exhibit US-7).

³⁶² US FWS, para. 941; Statement of Michael Bair, paras. 71-74 (Exhibit US-7).

289. The United States has shown that because of the many differences between military and civil aircraft, “a theoretical application of military technology is rare” in the civil sector.³⁶³ In the referenced segment of its second written submission, the EC attempts to rebut this observation by noting that civil applicability of DoD RDT&E is not “impossible.” The EC’s “not impossible” argument rebuts an argument the United States has never made. In addition, it disregards the legal and practical bar that the U.S. ITAR pose to actual use of military technology on a civil aircraft. Thus, while it is true that programs like DUS&T and ManTech may result in technology with applicability in the civil sphere, this sort of overlap is extremely limited. The EC’s efforts to prove that there are *some* dual-use technologies does nothing to disprove this observation, and greatly exaggerates the extent to which DoD research is even theoretically applicable to large civil aircraft.

290. **EC SWS, para. 431.** In its first written submission, the United States provided examples of the contracts that it considered as meeting the EC criteria for coverage in the dispute. The United States pointed out that the research specified in these contracts did not suggest the existence of even theoretical dual use in the civil sector. The United States accordingly concluded that even theoretical dual use – as opposed to the actual incorporation of technologies into large civil aircraft that the EC alleges – is “rare.”³⁶⁴ The EC does not question the U.S. observation that these contracts have no civil application. Instead, it asserts that the United States did not include among its examples several contracts that the EC mentioned in its first written submission, and that these contracts do show civil applicability of DoD technology. Many of them do not, and the remainder only underscore the accuracy of the U.S. observation that such applications are “rare” and, in any event, do not confer a benefit within the meaning of Article 1.2.

Procurement Contract F33615-91-C-5716 (Design and Manufacture of Low Cost Composites, Fuselage) (Exhibit EC-507) This was a research effort to develop technologies to reduce the acquisition and support costs of composite aircraft fuselage structures. The original focus was on military transport aircraft, with particular application to the YC-14 transport, which was cancelled. While the basic technologies might have had application to large civil aircraft, the research focused on deriving military performance benefits stemming from lighter weight transport aircraft. In any event, AFRL modified the contract in 1995 to change the focus to low-rate production of advanced fighter aircraft.³⁶⁵ These technologies would not apply to large civil aircraft.

³⁶³ US FWS, para. 162.

³⁶⁴ US FWS, paras. 161-163.

³⁶⁵ Procurement Contract 91-C05417, Modification P11 (11 Apr. 1994) (Exhibit US-625, pp. 109-114/140) (“The basic contract called for Boeing to develop the capability for large production runs for transport aircraft fuselages, and the Phase I Add-on involves shifting this focus to that of affordable prototyping and low rate production for an advanced fighter structure.”).

(The United States actually discussed this contract at length in its first written submission.³⁶⁶)

Procurement Contract F33615-91-C-5720 (Design and Manufacture of Low Cost Composites, Wing) (Exhibit EC-508) This was a research effort to develop technologies to reduce the acquisition and support costs of composite wingbox structures for advanced fighter aircraft. Although the technologies could have incidental application in large civil aircraft, the need for this composite technology, and thus the focus of the research, was driven by the unique structural loads in fighter aircraft.³⁶⁷ This contract was subject to full and open competition³⁶⁸ and price and terms were negotiated at arm's length. Therefore, the offeror would have taken the value of any civil applicability of the research into consideration. Moreover, since there was a competitive process, the combination of technical and price aspects in Boeing's offer met DoD's criteria better than other offers. In short, DoD could not have obtained what it sought at a lower cost.

Procurement Contract F33615-92-C-5971 (Low Cost Composite Processing) (Exhibit EC-509) This was a research effort to reduce costs of processing organic matrix composite structures for use in military aircraft. The technology could potentially have application to large civil aircraft. However, military interest in this technology comes from performance advantages of composite materials that improve military capability, including light weight, high strength, extended fatigue life, and signature reduction. This contract was subject to full and open competition,³⁶⁹ and price and terms were negotiated at arm's length. Therefore, the offeror would have taken the value of

³⁶⁶ US FWS, paras. 91, 101, 162 (7th bullet), and 179.

³⁶⁷ Procurement Contract F33615-91-C-5720, p. 27 (Exhibit EC-508, p. 27/72):

The contractor shall use Failure Mode Effect Criticality Analysis (FMECA) methods to develop a baseline of realistic failure modes including battle damage. . . . The contractor shall show that a low cost structure does not have reduced survivability when measured against today's aircraft and 23 and 30mm, High Energy Impact HEI threats. . . .

The contractor shall develop a repair analysis program for day-to-day and aircraft battle damage levels identified in the FMECA. . . . The contractor shall choose repairs and resources to reflect the fact that battle damage repairs are generally performed under austere conditions.

³⁶⁸ Procurement Contract F33615-91-C-5720, p. 1, item 23 (Exhibit EC-508). In the Air Force contract form, the contracting officer must check one of the boxes in item 23 if the contract was *not* subject to full and open competition, and provide a justification in the body of the contract. As there is no check, the contract resulted from competitive procedures.

³⁶⁹ Cooperative Agreement F33615-92-C-5971, p. 1, item 23 (Exhibit EC-509). In the Air Force contract form, the contracting officer must check one of the boxes in item 23 if the contract was *not* subject to full and open competition, and provide a justification in the body of the contract. As there is no check, the contract resulted from competitive procedures.

any civil applicability of the research into consideration. Moreover, since there was a competitive process, the combination of technical and price aspects in Boeing's offer met DoD's criteria better than other offers. In short, DoD could not have obtained what it sought at a lower cost.

Procurement Contract F33615-93-C-4334 (Large Composite Structure – Commercial/Military Integration) (Exhibit EC-510) This was a manufacturing technology effort to develop new business practices and policies, manufacturing infrastructure, and process technology to reduce costs and lower production risks for large composite structures. The military interest in this technology stems from need for “proof of concept” to incorporate new technology on military systems. The technology has applicability to large civil aircraft, encouraging the use of “dual use” commercial processes, practices, and factories. This contract was subject to full and open competition³⁷⁰ and price and terms were negotiated at arm's length. Therefore, the offeror would have taken the value of any civil applicability of the research into consideration. Moreover, since there was a competitive process, the combination of technical and price aspects in Boeing's offer met DoD's criteria better than other offers. In short, DoD could not have obtained what it sought at a lower cost.

Procurement Contract F33615-99-C-5019 (Non-Autoclave Materials for Large Composite Structures) (Exhibit EC-511) This was a research program to identify and validate electron-beam-cured materials and processes for manufacturing large cryogenic tanks for use in reusable space launch vehicles. The technology is not applicable to large civil aircraft, and the EC has provided no reason to believe otherwise.³⁷¹

Other Transactions F33615-98-3-5103 and F33615-98-3-5103 (Composite Affordability Initiative Phase II, Pervasive Technology Research) (Exhibits EC-517, EC-518, US-624, and US-614) The United States discussed Other Transaction F33615-98-3-5103 in detail in its comments above on paragraph 422 of the EC SWS, and those comments apply equally to Other Transaction F33615-98-3-5104. The EC cites the contracts in this context not to show that the technology resulting this research was actually used on the 787, but to support the different point that the technology could *theoretically* be used in large civil aircraft. In this, it is correct. That is why these

³⁷⁰ Procurement Contract F33615-93-C-4334, p. 1, item 23 (Exhibit EC-509). In the Air Force contract form, the contracting officer must check one of the boxes in item 23 if the contract was *not* subject to full and open competition, and provide a justification in the body of the contract. As there is no check, the contract resulted from competitive procedures.

³⁷¹ A report by an independent research institute also working on this project indicates that, in line with the cryogenic application, the research focused on the effect on composite materials of temperatures of -196°C. Future research involving Boeing was described as “{t}hermal and mechanical testing of quasi-isotropic laminates in liquid hydrogen” – an even colder temperature. Future applications were listed as “fabrication of SOV cryotanks and other space structures too large for existing autoclaves.” Catherine Byrne, *Non-Autoclave Materials for Large Composite Structures*, pp. 19, 22, 25, and 26 (Exhibit US-1280).

contracts were funded under the ManTech Program, through OTAs that required the private parties to contribute their resources to achieve DoD's objectives. In this regard, it is important to note that the Composite Affordability Initiative is a joint effort including the Air Force, Navy, Boeing, Lockheed Martin, and Northrop Grumman (Airbus' partner in selling A330 aircraft to DoD) to reduce the acquisition costs of aircraft structures through novel use of composite materials. Specialty composite structures provide important benefits to military aircraft, including increased range, payload, maneuverability, survivability, and speed with reduced corrosion and fatigue. Applications specific to Boeing were strictly on military aircraft – the X-45A and X-45C wing, and unmanned combat air vehicle fuselage substructure. In any event, the ManTech program, which specifically aimed at cross-over technologies,³⁷² does not support general statements about other RDT&E efforts that had no such objective.

Cooperative Agreements F33615-95-2-5019, F33615-95-2-5051, and Other Transaction N00014-3-0004 (Exhibits EC-512, EC-513, and EC-496) were not funded under any of the 23 PE numbers with regard to which the EC alleged subsidization.³⁷³ Accordingly, these contracts are not relevant to the arguments the EC has made with respect to those PE numbers, and the United States excluded the contracts from its contract list. In addition, as cooperative agreements and an OTA, these instruments recognize the existence of some applicability of the results of the contract additional to the benefit to DoD. They required Boeing to contribute its resources to the project, thereby paying for such potential additional applicability of the research.

Procurement Contract F33615-97-C-3219 (Composite Repair of Aircraft Structures) (Exhibit EC-514). This research was premised on DoD's concern that "{w}ith the present limitations in government funding, fewer aircraft will be procured in the future and the emphasis will be on techniques to extend the economic life of current aircraft." Thus, the focus is on ways for DoD to extend the life of military aircraft it has already purchased, and not developments applicable to future civil aircraft. Moreover, the purpose of the research was to develop techniques for "the use of bonded composite patches to repair fatigue or other damage on metallic aircraft structure or use bonded composite repairs to prevent future fatigue damage."³⁷⁴ The technique would apply *not* to the production or development of new aircraft, but to old aircraft – products not subject

³⁷² US FWS, paras. 133-135.

³⁷³ The two Air Force contracts (denoted by an "F" at the beginning of the number) were funded under PE 0602712E (Materials and Electronics Technology). Cooperative Agreement F33615-95-2-5019 also received funding under PE 0603570E (Defense Reinvestment). The Navy Other Transaction (denoted by an "N" at the beginning of the number) was funded under PE numbers 0602234N (Materials, Electronics and Computer Technology), 0602805N (Dual Use Science and Technology), and 0602236N (Warfighter Sustainment and Applied Research).

³⁷⁴ Procurement Contract F33615-97-C-3219, Attachment 1, p. 1 (Exhibit EC-514).

to the EC allegations.³⁷⁵ Finally, the United States notes that the R&D is related to repair of metal aircraft structures; the 787, the only aircraft Boeing took to production after the award of this contract, has a composite aircraft structure

Cooperative Agreement F33615-97-2-3220 (Composite Repair of Aircraft Structures) (Exhibit EC-515) was a cooperative agreement signed on the same day as the preceding procurement contract, F33615-97-C-3219, for the same project. As such, all of the same considerations make it inapplicable to the development or production of large civil aircraft. In addition, as a cooperative agreement, it recognizes the existence of some applicability of the results of the contract additional to the benefit to DoD. This vehicle required Boeing to contribute its resources to the project, thereby paying for any such potential additional applicability of the research.

The Panel should note that under the contracts that had even a recognized potential for dual use, DoD expended a total of only \$87.3 million.³⁷⁶ In the context of DoD’s R&D contracts with Boeing, this situation is, indeed, “rare.”

291. **Paragraph 432.** The EC also finds support for its assertion that dual-use technologies exist in a statement from Airbus engineers saying that:

{B}oth military and civil aircraft may use and benefit from similar technologies, such as advanced design and manufacturing processes; highly reliable, easily supportable and upgradeable avionics; and lightweight and rugged CFRP composite structures.³⁷⁷

The broad generalization that military and civil aircraft both need advanced design and manufacturing processes, highly reliable avionics, and lightweight and rugged CFRP composite

³⁷⁵ In fact, Boeing does not produce old aircraft, or broken aircraft, so repair technologies do not assist its production or development of large civil aircraft.

³⁷⁶ Exhibit US-41(revised) shows the following values for these contracts:

F33615-91-C-5716	\$9,749,570
F33615-91-C-5720	\$7,032,880
F33615-92-C-5971	\$2,672,782
F33615-93-C-4334	\$40,716,662
F33615-98-3-5103	\$14,706,855
F33615-98-C-5104	\$11,653,251
	<hr/>
	\$86,532,000

The Panel should note that for several of these contracts, any civil applicability is “incidental” or the contract had elements with no civil applicability. These examples demonstrate the invalidity of the assumption by the EC and CRA that when *some* research has a potential dual use, all of it does.

³⁷⁷ EC SWS, para. 432, quoting Statement by Patrick Gavin, *et al.*, para 49 (Exhibit EC-1175).

structures is certainly true. But that does not mean that they need the *same* design processes, manufacturing processes, avionics, or composite materials, or that the technologies developed and optimized for particular military aircraft will be applicable to and cost-efficient for civil aircraft. In fact, as the United States has demonstrated elsewhere, the evidence shows that military aircraft have a large number of missions and performance requirements irrelevant to civil aircraft, which drive DoD to research areas that in almost all instances have no application to civil aircraft.³⁷⁸ Moreover, the civil sector outspends DoD on research, so that in the limited instances of overlap between civil and military requirements, it civil technology is used on military aircraft much more often than the other way around. Therefore, the Airbus engineers' opinion quoted by the EC is entirely consistent with the U.S. observation that it is "rare" to have a Boeing RDT&E project result in technology applicable to its large civil aircraft.

292. **EC SWS, para. 433.** The EC attempts to advance its assertions as to cross-applicability of military technology by asserting that its complaint "focuses on the fundamental technologies used by Boeing to *design and build* its LCA."³⁷⁹ However, as we noted above, this is not correct. The EC's claims go far beyond "fundamental" technologies. Most of the funds challenged by the EC were for technologies to develop or improve specific aircraft in the DoD arsenal.³⁸⁰ The EC attempts to defend its approach by asserting that it has no interest in "the specific technologies implemented on LCA that make them different from military aircraft." But that does not address the issue raised by the United States – that the EC's allegations consist mostly of technologies implemented on military aircraft that make them different from LCA.

293. **EC SWS, para. 434.** The United States in its first written submission noted that production technologies Boeing developed for its B-2, V-22, and C-17 had no application to the 787 because "{m}ilitary production is by definition low rate."³⁸¹ The EC attempts to rebut this statement by noting that the JSF is produced at a rate of 12 aircraft per month, comparable to the ten 787s Boeing produces each month.³⁸² This observation misses two crucial points. First, Boeing cannot have learned production technologies from the JSF because it lost the contract to Lockheed Martin at the prototype stage, and the production rate cited by the EC is the *expected* rate for *Lockheed Martin*, which has not built 12 JSFs in total yet, let alone reached a level of 12 per month. (The Boeing effort challenged by the EC produced a total of two prototype aircraft,³⁸³ a "low rate" by any standard.) Second, the aircraft discussed in the US FWS, which

³⁷⁸ US FWS, paras. 130 and 139-143; Statement of Michael Bair, paras. 26-27 (Exhibit US-7); US SWS, paras. 52-53 and 208-212; *infra*, response to Question 208, final subquestion.

³⁷⁹ EC SWS, para. 433 (emphasis in original).

³⁸⁰ The U.S. comments on paragraph 418 of the EC SWS demonstrate that the large majority of the research that the EC alleges as a subsidy to civil aircraft was, in fact, part of the funds developed for four specific aircraft, the F/A-18, JSF, V-22/CV-22, and C-17.

³⁸¹ EC SWS, para. 434 *quoting* Affidavit of Michael Bair, para. 27 (Exhibit US-7).

³⁸² Statement by Patrick Gavin, *et al.*, para. 47 (Exhibit EC-1175), *cited in* EC SWS, para. 434.

³⁸³ William Cole, "The Value of Lessons Learned," *Boeing Frontiers*, p. 4/6 (Exhibit EC-464).

are the primary military aircraft that Boeing makes, have demonstrably low production rates – 1¹/₃ aircraft per month for the C-17, 3¹/₂ aircraft per month for the F/A-18, and 2¹/₂ aircraft per month for the V-22.³⁸⁴ Thus, production technology developed under *Boeing's* DoD contracts does not come close to the volume needs of the 787 program.

294. **EC SWS, para. 435.** In conclusion, the United States has always recognized that *some* DoD RDT&E has applications in the civil sector. If not, the DUS&T program would not have existed. It is true that fighter aircraft like the F/A-18 and JSF, military transports like the C-17, and civil aircraft “employ the same fundamental principles of physics to achieve flight.” (Rotorcraft like the V-22 actually use a different set of principles.³⁸⁵) However, any commonality is at such a level of abstraction as to indicate nothing meaningful about the specific technologies researched and developed to meet those performance requirements. The United States has shown, moreover, that any actual overlap between military and civil technologies is rare. Nothing in this segment of the EC SWS, or anywhere else in the EC’s submissions, proves otherwise or supports the CRA methodology.

- (c) *“...the U.S. assertion that the objective of DoD's RDT&E programs is military in nature is true, but immaterial to questions of whether and how resulting technologies are applied to commercial aircraft. The United States has offered no proof that the military focus of any DoD RDT&E contract precludes commercial applications. In fact, this proposition is easily disproven by numerous counterexamples.” (Exhibit EC-1176, p. 2, original emphasis, footnote omitted)*

295. Most critically, this quotation demonstrates how the EC attempts to reverse the burden of proof by arguing that the United States must prove that the military focus of DoD research precludes commercial applications. It is the EC, as the complaining party, that bears the burden of proving the fact that it wishes to establish – that DoD’s RDT&E military research activities produce technology used on large civil aircraft. For the United States, as responding party, it is sufficient to show that the EC has not presented evidence and argumentation that require the Panel, “as a matter of law, to rule in favour of the complaining party presenting the *prima facie* case.”³⁸⁶ That is what the United States has done by showing that in many instances when it faces “generic” technology, the EC’s consultant, CRA, simply assumes that it has a civil use without providing any support for the assumption. As such, CRA’s analysis does not make or support a *prima facie* case for the EC. The United States has also provided evidence to rebut the unsupported presumption applied by CRA.

296. This quotation also shows how CRA blurs the crucial distinction between whether technologies are applicable to large civil aircraft and whether they actually “are applied” on a

³⁸⁴ Boeing 2007 Annual Report, p. 30 (Exhibit US1281); GlobalSecurity.org, “V-22 Osprey” (Mar. 3, 2006) (Exhibit US-1282).

³⁸⁵ US FWS, para. 159. The EC has never objected to this observation.

³⁸⁶ EC – *Hormones (AB)*, para. 104

civil aircraft. The former deals with what *could* happen and the latter with what actually has happened. Most of CRA’s analysis goes to the former question. It looks at narrative descriptions of DoD RDT&E projects at a very high level of generality, and attempts to discern whether they are applicable to large civil aircraft. In this sort of evaluation, DoD’s military objective is highly “material” because the evaluator must address the fact – which CRA concedes – that much of DoD’s research is into areas with no relevance to large civil aircraft. Thus, research in a generic area, like “fundamental aerodynamics” may focus on topics like optimal placement of weapons, how best to armor bulkheads, stealth characteristics, or maneuvering at supersonic speeds – all topics that CRA concedes are irrelevant to large civil aircraft.³⁸⁷ CRA’s decision to disregard this possibility is a critical flaw in its analysis.

297. Whether “applicable” technologies actually “are applied to commercial aircraft” is a separate question. That will depend on (1) whether they are in the hands of a producer of civil aircraft, (2) whether the theoretical applicability to civil aircraft proves workable in reality, and (3) whether the applicable technology in question is good enough that the producer actually uses it on a civil aircraft. CRA and the EC attempt to address this question in two different ways. First, they argue that a small number of quotations from Boeing officials are evidence that the company actually used technologies developed through DoD RDT&E on the 787. The United States has explained how the EC misinterpreted these quotations. The second way is mathematical. After CRA calculates the value of what it considers to be research into “dual use” technologies, it assigns Boeing a share proportionate to its share of U.S. aerospace production. CRA provides no reasoning in support of its apparent assumption that DoD apportions its RDT&E contracts in this way. Moreover, this calculation does not even address whether the technology proves workable or is actually used.

298. CRA’s “counterexamples” appear later in the text of Exhibit EC-1176, and the United States addresses them in response to arguments (a) and (e).

(d) *“Technology developed for military aircraft is not unique to military applications.” (Exhibit EC-1176, p. 2)*

299. This argument by CRA rebuts an assertion the United States never made – that technology developed for military aircraft is unique to military applications. In fact, the United

³⁸⁷ Exhibit EC-1176, p. 3 (“only certain types of tactical military aircraft “often” or ever fly at supersonic speeds, require stealth characteristics, or are built explicitly to survive bullet holes, and these are primarily certain types of air superiority fighters and strike aircraft.”); p. 29 (“High temperature airframe structures would generally be more important in high supersonic, or hypersonic aircraft, for instance. The funding in this case was therefore excluded from the CRA analysis.”). The Panel should note that, even though CRA concedes that fighters and strike aircraft require performance characteristics irrelevant to large civil aircraft, the EC treats research related to the F/A-18 and Joint Strike Fighter (“JSF”), and F-22 as dual use, even though both aircraft has air superiority and strike missions. EC FWs, para. 677; Exhibit EC-7, pp. 19-23; US SWS, para. 209. Moreover, much of the value that CRA ascribes to dual use technologies come from airframe and avionics technologies – precisely the elements of the aircraft most likely to undergo stresses foreign to large civil aircraft because of those unique performance requirements. Exhibit EC-7, Appendices H and I.

States has been clear from the outset that “{t}here is no question that DoD engages in some research into ‘dual use’ technologies.”³⁸⁸ The United States has also been clear that such efforts are rare, as “DoD-contracted research was primarily directed to achieving capabilities that were not relevant to large civil aircraft”³⁸⁹ Thus, CRA’s efforts to prove that DoD technology is not “unique” to military aircraft are pointless. That said, the United States and the EC do disagree on *how much* DoD research involves dual-use technologies, and on the extent to which the evidence cited by the EC establishes that particular DoD research in fact involves dual-use technology. The United States addresses these areas of disagreement in its responses to the other EC and CRA quotations referenced in this question.

(e) *“The technologies included in CRA’s analysis are not unique to military applications.” (Exhibit EC-1176, pp. 6-14)*

300. In its first written submission, the United States explained how CRA’s methodology systematically resulted in the treatment of research as having civil applicability when the evidence did not support such a conclusion. In this segment, CRA attempts to defend its initial analysis, and support the EC’s argument that the application of military technology to civil aircraft application is not “impossible” by asserting that the technologies included in its analysis are not unique to military applications. However, like its employers, CRA has the analysis wrong. CRA’s methodology treats research framed in generic terms as having a civil applicability, even when the description of the research explicitly states military uses or weapons as the objectives. The assertion that *some* military technology *could* have applicability to large civil aircraft does not support CRA’s conclusion, and does not meet the EC’s burden of proof on its contention that Boeing actually used the results of its RDT&E contracts in the development and production of the 787.

301. In fact, the sources CRA cites and the examples it gives in this segment of its analysis only serve to demonstrate its own fallacy. That is not to say that CRA’s erroneous methodology consistently produces the wrong results. As noted above, CRA occasionally recognizes that some DoD research topics have nothing to do with civil aircraft. Even more rarely, it identifies a few areas of true dual-use technology. These limited examples, however, do not validate a methodology demonstrably based on unsupported assumptions.

302. CRA begins its efforts to rehabilitate itself by analogizing aircraft research to automotive research, arguing that technology developed for high performance racecars may prove applicable to ordinary passenger cars.³⁹⁰ The analogy is misplaced. There is no equivalent in racecars of the stresses that a fighter aircraft faces exceeding the sound barrier, or moving into hypersonic speeds. Nor is there any equivalent in the auto racing world of the military need to withstand

³⁸⁸ US FWS, para. 127.

³⁸⁹ US FWS, para. 139.

³⁹⁰ Exhibit EC-1176, pp. 6-7.

hostile fire or for fighters and bombers to evade detection through stealth technology. These much greater distances between military and civil needs are an important part of what make technologies addressing military needs irrelevant to the civil sector in most cases. Even on the type of aircraft that comes closest in mission to a large civil aircraft – a military transport like the C-17 – the requirements of its military mission require technologies irrelevant to a large civil aircraft.³⁹¹

303. CRA alleges that there are nine areas in which military aircraft technologies overlap with civil aircraft technologies. It then presents examples of research activity descriptions that, in its view, indicate research that falls into the overlap. The United States will address each set of supposed overlaps in turn. As a general point, the examples put forward by CRA demonstrate two fallacies. The first is that, when faced with a description of research including a general term that *could* apply to civil aircraft, even a term as general as “advanced aerodynamic concepts,”³⁹² CRA concludes that the research *must* have civil application – in effect, a presumption of civil applicability. In one example, CRA goes so far as to justify treating a project as civil because “there is nothing about it that implies it could not apply to LCA as well as military aircraft.”³⁹³ The EC bears a burden of proof, and this type of presumptive reasoning does not satisfy it, particularly where the bulk of the evidence points to the opposite conclusion.

304. The second fallacy is CRA’s application of a contagion rule – if a description of research activities contains one word that CRA considers to signal a potential civil applicability, CRA assumes that all of the research in that project had a potential civil applicability. In one instance, CRA explains that “environmental control systems” could be used on civil aircraft and, on that basis treats the entire project as having civil application even though other areas mentioned in the description, including engine components, which are outside the scope of the inquiry. Even so, CRA treats the entire value of the research as having civil applicability, and treats 56 percent of the amount it allocates to Boeing as being civil in nature.³⁹⁴ This is obviously invalid.

305. As a general matter, CRA attempts to defend its assertions as to commonalities between civil and military aircraft by making broad statements attributed to an aircraft design textbook by Daniel Raymer, *Aircraft Design: A Conceptual Approach*.³⁹⁵ However, Dr. Raymer’s text does not support these efforts to suggest extensive dual use of DoD technology. Rather, his

³⁹¹ US FWS, para. 143, provides additional details.

³⁹² Exhibit EC-1176, p. 8. In the military sector, advanced aerodynamics generally means high wing loading, transonic or greater speed, flow control and high lift devices and ESTOL (“extremely short take-off and landing”) – factors that are not an issue for designing civil aircraft.

³⁹³ Exhibit EC-1176, p. 14.

³⁹⁴ Exhibit EC-25, p. 20 (\$2,379 million allocated to Boeing/MD LCA Division as a share of alleged “Total Non-Engine Dual-Use DoD RDT&E to Boeing/MD”).

³⁹⁵ Daniel Raymer, *Aircraft Design: A Conceptual Approach* (3rd edition, 1999) (Exhibit US-1283).

discussion and data show again and again that the aircraft that CRA cites as advancing civil technology have little relevant overlap with civil aircraft.

306. Dr. Raymer makes clear that rotorcraft like the V-22/CV-22 work under entirely different principles than fixed-wing aircraft like the large civil aircraft subject to the EC's claims. They are subject to a separate subchapter of his book, which emphasizes that "{s}pecialized helicopter textbooks should be referred to for the details of blade aerodynamics, rotor analysis, power estimation, vehicle dynamics, and range and performance analysis."³⁹⁶ Dr. Raymer notes that, unlike fixed wing aircraft, there is no general equation to determine fuel consumption over a fixed distance, which makes for a unique design process. He also notes that "rotor blade aerodynamics dominate even the earliest design studies" to such an extent that "{h}elicopter designers simply don't spend much time doing top-level, order of magnitude conceptual trade studies" – a critical part of designing fixed wing aircraft.³⁹⁷ Rotorcraft also have unique design parameters, in the form of "power loading," "disk loading," and "solidity."³⁹⁸ In fact, Dr. Raymer observes that "{t}he basic mechanization for a rotor is almost scary to fixed-wing airplane designers and pilots."³⁹⁹ In short, assertions by CRA and the EC that rotorcraft have a meaningful technological overlap with civil aircraft, which are unsupported by any evidence,⁴⁰⁰ have no basis in aeronautical science.

307. The same holds true for fighter aircraft. Dr. Raymer's text again and again describes fighter aircraft as having performance requirements different from civil transports, which drive the use of different design choices and different technologies. For example, fighter aircraft typically require supersonic speeds, which in turn necessitate a different set of principles for the "airfoil" than are applicable to transports and other high-subsonic aircraft.⁴⁰¹ Supersonic speeds also entail much greater skin temperatures, which in turn compel the use of materials different from lower speed aircraft.⁴⁰² Thrust-to-weight ratios for fighters will be 50 to 250 percent higher than for civil transports.⁴⁰³ Fighter aircraft require avionics that are proportionately a greater part of the aircraft than is true for jet transports, and rely on other electronics (including radar, electronic countermeasures, infrared search and track, and IR jammers) that are irrelevant to civil aircraft.⁴⁰⁴ Military aircraft in general, and the JSF in particular, seek to have "stealth" or low

³⁹⁶ Raymer, p. 639 (Exhibit US-1283).

³⁹⁷ Raymer, p. 640 (Exhibit US-1283).

³⁹⁸ Raymer, pp. 657-648 (Exhibit US-1283).

³⁹⁹ Raymer, p. 642 (Exhibit US-1283).

⁴⁰⁰ EC FWS, para. 715; EC SWS, para. 461; EC RPQ1, para. 22; Exhibit EC-7 pp. 17-19.

⁴⁰¹ Raymer, p. 54 (Exhibit US-1283).

⁴⁰² Raymer, pp. 426-427 and 436 (Exhibit US-1283).

⁴⁰³ Raymer, p. 89 (Exhibit US-1283).

⁴⁰⁴ Raymer, pp. 304-305 (Exhibit US-1283). For example, Dr. Raymer notes that radar on transport aircraft "are used only for weather avoidance, and are very small relative to the size of the aircraft's nose."

observability design. These are not simple additions of equipment or specialized materials, but considerations that drive all aspects of design from location of engines, wing and tail design, fuselage design, and avionics.⁴⁰⁵ Therefore, military aircraft will have unique designs that in turn drive technologies in directions irrelevant to civil aircraft. In short, efforts by CRA and the EC to argue that fighter aircraft like the F/A-18 and Joint Strike Fighter (“JSF”) have a meaningful technological overlap with civil aircraft have no basis in aeronautical science.

308. **Aerodynamics.** CRA makes the highly general observation that military and civil aircraft all have wings (airfoils) that operate according to aerodynamic principles and can be described in terms of their wing loading, empennage geometry, etc.⁴⁰⁶ But the critical point, which CRA ignores, is that different mission and design requirements compel the use of different designs that operate under different principles. For example, Dr. Raymer indicates that the aerodynamics of supersonic flight differ from those of subsonic flight,⁴⁰⁷ which means that the aerodynamics most critical to fighter aircraft are not applicable to civil aircraft.⁴⁰⁸ And, as the United States has noted, the aerodynamics of rotorcraft are even more different.

309. CRA uses the superficial similarity that aerodynamic principles apply to both civil and military aircraft to justify treating DoD research into “advanced aerospace systems,” “aerospace components,” and “advanced aerodynamic concepts” as *ipso facto* sources of dual-use technologies. However, given that military aircraft, like fighters or the V-22/CV-22 tiltrotor, rely on different aerodynamics than civil aircraft, one cannot simply assume that military aerodynamic research is applicable to large civil aircraft. Even on the type of aircraft that comes closest in mission to a large civil aircraft – a military transport like the C-17 – the designers had to wrestle with aerodynamic problems irrelevant to civil aircraft, must notably, a design that would allow safe airdrop of passengers and cargo without tangling after exit.⁴⁰⁹ Thus, observations that aerodynamic research can be relevant to large civil aircraft do not meet the EC’s burden of proof to establish that aerodynamics research *for DoD* is applicable to large civil aircraft.

310. **Structure.** CRA again resorts to generalities, noting that development of all aircraft involves “structural analysis and design,” a consideration of various “loads,” and the use of metals and composites.⁴¹⁰ However, it is forced to concede that the magnitudes of load “differ

⁴⁰⁵ Raymer, p. 192 and 194 (Exhibit US-1283); Congressional Research Service, F-35 Joint Strike Fighter (JSF) Program: Background, Status, and Issues, p. CRS-4.

⁴⁰⁶ Exhibit EC-1176, p. 8 (Exhibit US-1283).

⁴⁰⁷ Raymer, pp. 323-327, 331 (“At transonic and supersonic speeds, the maximum lift a wing can achieve is usually limited by structural considerations rather than aerodynamics. Unless the aircraft is flying at a very high altitude, the available maximum lift at Mach 1 is usually enough to break the wings off!”) (Exhibit US-1283).

⁴⁰⁸ Affidavit of Douglas Ball, paras. 4 and 7 (Exhibit US-1257).

⁴⁰⁹ Airflows that would be acceptable on a large civil aircraft could cause people or cargo airdropped from the aircraft to collide with the fuselage, engines, or each other.

⁴¹⁰ Exhibit EC-1176, p. 9.

by mission” and that “some variants of materials and some variants of structural members are indeed customized for a particular aircraft or mission application.”⁴¹¹ This concession alone invalidates CRA’s methodology because if “some” missions involve uniquely large “load” factors or require customized materials, one cannot assume, as CRA does, that DoD research into “large integrated composites structures for aircraft” or “to reduce cost and increase reliability of advanced materials” is applicable to large civil aircraft. In fact, CRA understates when it asserts that there are “some” unique materials or load factors. As noted above, Dr. Raymer’s book indicates that *most* of the military aircraft that the EC targets as contributing technology to the 787 actually had very different missions and performance requirements, which would tend to require technologies inapplicable to large civil aircraft. Thus, observations that structural research can be relevant to large civil aircraft do not meet the EC’s burden of proof to establish that structural research conducted by DoD is applicable to large civil aircraft.

311. **Avionics.** CRA simply asserts that “communications, navigation, and flight management systems, as well as the processing hardware and software behind them, often have substantial commonality in requirements, algorithms, and design principles.”⁴¹² However, Dr. Raymer indicates that navigation radar for large civil aircraft is in fact much more limited than is typical for combat aircraft, and that other electronic systems also differ in important ways. In any event, CRA concedes that “mission-specific avionics systems are frequently quite specialized for military aircraft.”⁴¹³ This statement alone invalidates its methodology because if military aircraft require specialized avionics, one cannot assume, as CRA does, that DoD research into “next-generation air and space platform software” is applicable to large civil aircraft.⁴¹⁴ Thus, observations that avionics research can be relevant to large civil aircraft do not meet the EC’s burden of proof to establish that avionics research conducted by DoD is applicable to large civil aircraft.

312. **Flight Controls.** CRA asserts that, while military and civil aircraft use their control systems differently and for different maneuvers, “the underlying technology and design principles are the same”⁴¹⁵ It cites as support Dr. Raymer’s chapter on “Stability, Control, and Handling Qualities,” without reference to a particular page or section. While Dr. Raymer’s chapter does discuss different basic equations and techniques for controlling an aircraft, it is an elementary text that covers the foundational principles that aircraft designers learn as part of their basic education, long before they begin to work on a specific project. The text also explains that a designer applies these basic principles in fundamentally different ways depending on the

⁴¹¹ Exhibit EC-1176, p. 9.

⁴¹² Exhibit EC-1176, pp. 10-11.

⁴¹³ Exhibit EC-1176, p. 10.

⁴¹⁴ Military aircraft must operate in civil airspace. Therefore, for operations within civil parameters, the military try to use “commercial off-the-shelf” technology. DoD’s research effort focuses on developing capabilities that go beyond civil systems and integrating them into civil systems.

⁴¹⁵ Exhibit EC-1176, p. 11.

mission requirements of a particular aircraft, including maneuverability, speed, altitude, configuration and payload. In fact, Dr. Raymer is clear that fighters have combat maneuverability and other requirements that are unique.⁴¹⁶ Thus, the text does not justify treatment of research involving “flight control methods and criteria that provided air combat advantage with increased performance and decreased vulnerability and cost” as presumptively dual-use technology. Moreover, CRA’s argument that a reference to “global range aircraft” marks research into “air combat advantage” as a dual-use technology presents a characteristic problem with the contagion principle of attempting to identify civil applicability. There are global range military aircraft with air combat requirements, and their unique requirements do not overlap with civil aircraft simply because *some* civil aircraft also have a global range. Thus, observations that flight control research *can be* relevant to large civil aircraft do not meet the EC’s burden of proof to establish that flight control research conducted by DoD *is* applicable to large civil aircraft.

313. **Environmental Control.** In the first place, military aircraft may have to operate in extreme environments, such as high g-force in fighters or extremely high altitude for surveillance aircraft like the U-2, in which civil aircraft do not operate. Thus, it is not valid to assume that environmental research conducted by DoD is relevant to large civil aircraft. CRA’s example of research involving environmental controls is also a particularly egregious example of the CRA contagion principle. CRA seeks to justify treating an entire field of research as involving dual-use technology because the description referred to “environmental control systems.”⁴¹⁷ In fact, the same description also covered “engine components,” which CRA elsewhere admits should not be treated as applicable to large civil aircraft. Therefore, CRA’s conclusion that a research description *involving* environmental controls is entirely applicable to civil aircraft is plainly invalid.

314. **Power.** CRA returns to generalities in this segment, basing its dual-use assumptions on the fact that both military and civil aircraft require power to operate. Even at the most basic level, however, different FAA and DoD certification requirements mean that the specifications for power systems are different, including the number of generators, how they interact with standby systems, and what happens in case of system failure. And, at a more detailed level, Dr. Raymer himself highlights configuration difference, including the fact that commercial aircraft designers must reduce cabin noise, which necessitates placement of the power system in the tail. Military transport designers do not face the same design constraints, and can accordingly have power systems mounted in the fuselage, which allows greater ground access, but necessitates increased firewall protection. Fighter aircraft have their auxiliary power units in the aircraft fuselage, requiring a complete firewall enclosure⁴¹⁸ that has no analog in civil aircraft. Thus, Dr.

⁴¹⁶ Raymer, pp. 105-109, 522, and 525 (citing combat maneuverability, inertial coupling at high altitude, and various military specifications) (Exhibit US-1283).

⁴¹⁷ Exhibit EC-1176, p. 12.

⁴¹⁸ Raymer, p. 300 (Exhibit US-1283).

Raymer contradicts CRA’s treatment of research into “power generation components for aircraft systems” as *ipso facto* dual-use technologies. As in other examples, CRA provides no support for its assertion that this DoD research would be applicable to civil aircraft. Thus, observations that research into power systems can be relevant to large civil aircraft do not meet the EC’s burden of proof to establish that power research conducted by DoD is applicable to large civil aircraft.

315. **Fuel Systems.** CRA begins by noting that Raymer recognizes that performance requirements and design constraints are closely tied to the propulsion system integration, as well as general vehicle layout.⁴¹⁹ This statement alone undermines any justification for assuming that military research in this area has civil applications, as the two sectors have different propulsion needs. CRA proceeds to cite a project regarding delamination of aging integral fuel tank coatings as a dual-use technology. However, it fails to recognize that military and civil aircraft have different needs in this area. The technology used on civil aircraft was developed commercially, where integral fuel tanks have been used for generations of aircraft. Dr. Raymer explains, military aircraft have not made significant use of this technology because it is vulnerable to bullet damage.⁴²⁰ Instead, military aircraft have used a different technology, self-sealing rubber bladders, which can withstand bullet damage, but are too heavy for commercial applications, for which bullets are not a usual concern. Thus, if there is any presumption to be made with regard to military research in this field, it is that the research relates to the specialized requirements for using integral fuel tanks on military aircraft.

316. **Manufacturing.** The United States has explained several reasons why military aircraft production techniques are typically not applicable to large civil aircraft, most notably because of the different production volumes for Boeing’s military aircraft.⁴²¹ CRA notes that civil aircraft production in particular focuses on “minimizing time and cost . . . while maintaining safety and quality.”⁴²² This observation suggests, as is correct, that military aircraft production processes generally address different concerns than civil, which would further suggest a lack of applicability in the civil sector. Nevertheless, CRA proceeds to assert that research into “cost-effective and efficient manufacturing technologies for existing and next generation aircraft” would accordingly produce dual-use technology because “there is nothing about it that implies it could not apply to LCA as well as military aircraft.” In light of the consensus that civil and military production processes will *differ*, there is no basis to *presume* a civil application.

⁴¹⁹ Exhibit EC-1176, p. 13.

⁴²⁰ Raymer, p. 265 (Exhibit US-1283).

⁴²¹ The comment on paragraph 434 of the EC SWS shows that production volumes for the military aircraft produced by Boeing do, in fact, differ markedly from large civil aircraft.

⁴²² Exhibit EC-1176, p. 14.

317. The United States notes that CRA's example comes from the Air Force Manufacturing Technology ("ManTech") and DUS&T Programs,⁴²³ and demonstrates the hazards of CRA's approach – even when it comes closest to a correct result. Research conducted under ManTech and DUS&T did have some civil applicability,⁴²⁴ but, as the United States has explained, the research focused on military aircraft and adapting civil technologies for military applications, not *vice versa*. Moreover, the main ManTech effort challenged by the EC was the Composites Affordability Initiative, which used contractual vehicles under which the private parties contributed their own resources and received no fee.⁴²⁵ Under this mechanism, the offeror would take any expected civil applicability of research results into consideration. In any event, Boeing's engineers have explained that the technologies developed for the 787 were actually driven by commercial experiences, supplier input, and the unique requirements and design of the 787, not the small amount of focused research conducted under the Composites Affordability Initiative. Thus, these programs simply show how *potential* civil applications perceived at the time DoD awards a research contract do not necessarily evolve into *actual* applications on civil aircraft.

318. **Maintenance, Repair, and Overhaul Technologies for Aircraft.** In response to this question, CRA cites to one of the rare research description that actually references commercial application of the resulting technology. However, CRA provides no evidence to conclude that *Boeing* received funding for research applicable to civil aircraft in this area. In fact, as the United States explains in its comments on paragraph 432 of the EC SWS, the only contracts for composite repair of aircraft structures under the 23 PE numbers challenged by the EC, Procurement Contract F33615-97-C-3219 and Cooperative Agreement F33615-97-2-3220, focused on technologies irrelevant to the 787.

209. *Can the United States explain whether there is information in the public domain regarding the absolute and relative amounts of funding received by individual contractors under the 23 programme elements challenged by the European Communities in this proceeding?*

319. The United States is unaware of any public domain information on the absolute and relative amounts of funding received by individual contractors under the following program elements: Defense Research Sciences (PE# 0601102F); Materials (PE# 0602102F); Aerospace Flight Dynamics and Aerospace Vehicle Technologies (PE# 0602201F); Aerospace Propulsion (PE# 0602203F); Aerospace Sensors (PE# 0602204F); Dual Use Applications and Dual Use Science & Technology (PE# 0602805F); Advanced Materials for Weapon Systems (PE# 0603112F); Flight Vehicle Technology (PE# 0603205F); Aerospace Structures and Aerospace

⁴²³ Exhibit EC-1176, notes 46 and 47.

⁴²⁴ US FWS, paras. 135-138.

⁴²⁵ *Compare* Other Transaction F33615-98-3-5103 (Exhibit EC-517) and Other Transaction F33615-98-3-5104 (Exhibit EC-518) (making no provision for fee) *with* Procurement Contract F33615-94-C-3400 (Extended Tire Life), p. 10 art. H.5 (Exhibit US-622) (providing specifically for fee).

Technology Dev/Demo (PE# 0603211F); Aerospace Propulsion & Power Technology (PE# 0603216F), Flight Vehicle Technology Integration (PE# 0603245F), Manufacturing Technology/Industrial Preparedness (PE# 0603771F/0708011N), and A-6 Squadrons (PE# 0204134N).

320. Program elements RDT&E For Aging Aircraft (PE# 0605011F) and Manufacturing Technology/Industrial Preparedness (PE# 0708011F) do contain information on absolute amounts of funding received by some individual contractors in particular years, which would allow a calculation of relative amounts. Information related to these program elements appears in Exhibit US-1252.

321. Program elements C-17 (PE# 0401130F/0604231F), CV-22 (PE# 0401318F), Joint Strike Fighter (PE# 0603800F/0603800N/0603800E/0604800F/0604800N), F/A-18 Squadrons (PE# 0204136N), also contain information on absolute amounts of funding received by individual contractors in particular years, which would allow a calculation of relative amounts.

322. Program elements AV-8B Aircraft (PE# 0604214N), Comanche (PE# 0604223A), F-22 (PE# 0604239F), B-2 Advanced Technology Bomber (PE# 0604240F), V-22 (PE# 0604262N) contain information on absolute amounts of funding received by individual contractors for some years, which would allow a calculation of relative amounts in those years.

210. *Please explain the sources and methodology used to develop the lists of contracts contained in Exhibits US-41 (revised) and US-1246. What is meant by the "DoD's disbursement database" in the notes at the end of the Revised Contract List in Exhibit US-41?*

323. The United States developed the lists of contracts included in Exhibits US-41 (revised) and US-1246 using the following steps:

- (1) The United States identified points of contact at the Air Force Research Laboratory ("AFRL"), the Office of Naval Research ("ONR"), and the ManTech Program Office, the DoD entities most likely to have awarded contracts under what the EC describes as the "general aircraft RDT&E PEs"⁴²⁶ and asked them to (a) identify contracts that met the selection criteria listed in paragraph 159 of the US FWS, and paragraph 7 of the US RPQ1; and (b) gather copies of the contracts and any modifications to the contracts that were available to them. The United States also transmitted lists of the 23 PE numbers to these points of contact, in case they were aware of records that would identify contracts related to those PE numbers.

⁴²⁶ EC FWS, para. 680.

- (2) The points of contact transmitted the inquiries to responsible officials within their organizations, who sent back copies of materials related to contracts that they considered could meet the selection criteria.
- (3) Contracts gathered through this process were subject to further review, in consultation with Boeing, to ensure that the different responding officials applied the selection criteria consistently. Contracts that did not meet the selection criteria were excluded from the contract set.
- (4) Steps (1) through (3) occurred during the Annex V process in DS317. After receiving the EC FWS in DS353, the United States returned to the points of contact, asking them to provide any new contracts that met the selection criteria and any modifications to those contracts. The United States also requested modifications to contracts in the original Annex V data set made after the cut-off date for data gathering in that proceeding. The United States chose December 2006 as the cut-off date for this exercise.
- (4) Paper copies of the contracts and all contract modifications were examined to determine whether funding codes included in the hard copies showed funding through the 23 PE numbers referenced by the EC. All contracts that were not funded through those PE numbers were removed from the contract set.

324. The United States then determined the maximum value of research potentially funded under each contract by determining the amount of funds “obligated” to that contract. This amount is recorded in modifications to the contract, and represents the maximum amount of money that DoD has set aside at any given time to fund disbursements under the contract.⁴²⁷ As such, it represents the maximum amount that could have been spent. (The citation for the last available modification indicating funds obligated for each contract is indicated in the “source” column of Exhibit US-41(revised)). There were two types of deviations from this process. The first was for the Air Vehicle Technology Integration Program (AVTIP) contract, number F33615-00-D-3052. Some of the task orders or modifications containing funding information were missing from the file set gathered by the point of contact. Therefore, to avoid those gaps resulting in an underestimate, the United States used data from DoD’s disbursements database. The second deviation was for contracts that were still open as of December 2006, but for which there was concern that some modifications were missing. To avoid an underestimate, the United States used data from DoD’s disbursements database.

⁴²⁷ Paragraph 114 of the US FWS contains an example of how the amount of funds obligated may change over the life of a contract.

325. DoD's disbursements database is a computerized database that records all payments to the contractor and billing adjustments under each outstanding contract. (Data relating to a contract are purged from the system when the contract is closed.⁴²⁸)

326. The process worked differently for what the EC calls the "military aircraft PEs,"⁴²⁹ As the huge number of documents in Exhibit 640 demonstrates, for these contracts, the volume of documents was simply too large to gather and review all of the materials in the time available. Therefore, the United States selected the C-17 as the aircraft to which CRA ascribed the largest value of research into dual-use technology, and provided the most recent Contract, F33657-00-D-2000, as an example of how a research contract related to a specific military aircraft would operate. A point of contact in the Air Force's C-17 Command provided these materials.

211. *At paragraph 49 of its Second Written Submission, the United States asserts that "the data show that research into 'dual use' technologies at Phantom Works was insignificant".*

(a) *Please identify the sources of each of the figures reported in this paragraph.*

327. Boeing was the source for all of the figures. It has provided an affidavit to document those figures.⁴³⁰

(b) *Does the dollar figure referred to in the second sentence of this paragraph refer to contracts for research and development under the programme elements challenged by the European Communities? Please explain which time period is covered by this figure.*

328. No, the figure referred to in the second sentence of paragraph 49 refers to all DoD RDT&E contracting with Phantom Works. For example, Hy-Fly, the hypersonic strike missile referenced in the paragraph, was not funded under one of the 23 PE numbers challenged by the EC. The United States provided this information in response to an EC calculation that attempted to estimate the value of Phantom Works' R&D contracts with NASA and DoD in 2003. Therefore, the figures reported in paragraph 49 represent only calendar year 2003.⁴³¹

⁴²⁸ DoD's computer databases are organized differently from NASA's, and statements regarding one agency will not necessarily apply to the other. For example, NASA's disbursements database does retain historical data on contracts that have closed, while DoD's does not.

⁴²⁹ EC FWS, para. 677. Those PE numbers were 0604262N (V-22), 0401318F (CV-22), 0204136N (F/A-18), 0603800F and 0603800N (JSF), 0604231F and 0401130F (C-17), 0604239F (F-22), 0604240F (B-2), 0604223A (Comanche helicopter), 0204134N (A-6), and 0604214N (AV-8B).

⁴³⁰ Affidavit of David Bullock (Exhibit US-1284).

⁴³¹ Affidavit of David Bullock (Exhibit US-1284).

212. *The European Communities contends that the estimates provided by the United States of DOD R&D funding to Boeing are flawed. (EC Comments on US RPQ1, para. 3) Please respond in detail to each of the criticisms expressed by the European Communities in this regard.*

329. The EC makes five criticisms of the U.S. estimates. We respond to each in detail.

330. **Criteria.** The EC asserts that the selection criteria the United States used – absence of a purely military objective, no relation to space, no relation to missiles, no relation to engines, and no relation to rotorcraft – “systematically excluded contracts that result in dual-use technology applicable to LCA.”⁴³² The EC provides no examples of missile or space research that it even alleges as relevant to this dispute, and even after an apparently exhaustive search for contracts, cites no contracts on these topics that should have been included. With regard to engine contracts, the EC’s own experts make a point of excluding research that is related to engines,⁴³³ so it can scarcely criticize the United States for adopting the same approach. As for a purely military objective, the EC’s claim is that research into *dual-use* technologies benefits Boeing large civil aircraft. Therefore, by definition, contracts involving purely military objectives have no place. Moreover, the contract set represented by Exhibit US-41(revised) contains a number of contracts with stated military objectives, demonstrating that the “purely military” criterion did not result in systematic exclusion of contracts simply because they had military objectives. Finally, rotorcraft differ from fixed wing aircraft even in the fundamental principles of physics that allow them to fly.⁴³⁴ The EC has never objected to this observation. In any event, the United States made a point of including a rotorcraft project, Cooperative Agreement F33615-97-2-3400 (Next Generation Technology) in its contract set because it addressed windscreen technology rather than the technology of flight.⁴³⁵ Thus, there is no validity to the EC’s assertion that the U.S. criteria systematically excluded contracts.

331. **Completeness.** The United States described in its first written submission and responses to questions from the Panel how it identified contracts that met the criteria set by the EC for inclusion in this dispute. The EC has criticized that description as providing “no confidence that its methodology has captured all of the dual-use RDT&E funds actually disbursed to Boeing,” “no way to verify” that the United States properly identified contracts,” and no “supporting exhibits or documented explanations of any kind indicating how it picked the contracts.”⁴³⁶

⁴³² EC Comments on US RPQ1, para. 18.

⁴³³ E.g. Exhibit EC-7, p. 6 (“CRA excluded engine-related work where possible, because Boeing does not in general focus on designing or manufacturing aircraft engines”); p. 20 (“CRA does not incorporate engine-related work in its analysis since Boeing does not design or develop aircraft engines.”).

⁴³⁴ US FWS, para. 159. The United States provides additional evidence on this point in its response to Question 208, fifth point.

⁴³⁵ US FWS, para. 159, note 217.

⁴³⁶ EC SWS, paras. 19-20.

However, the EC presents no evidence that provides any reason to doubt the completeness of the U.S. process for identifying contracts responsive to the EC claims. Therefore, its groundless criticisms are entitled to no weight.

332. The EC also opines that to meet its burden of rebutting the EC's assertions, the United States must disclose all of Boeing contracts or subcontracts funded under the relevant PE numbers, without redactions or omissions, related documentation, and some means to verify that the information has been provided.⁴³⁷ The EC does not explain how it reached these conclusions regarding the evidentiary burden on a responding party, or provide any basis for the Panel to adopt those standards as its own. There is, in fact, no support for the EC view. While a responding party *could* meet its burden of proof by following the path described by the EC, nothing in the DSU or SCM Agreement requires a party to proceed in that manner, or precludes a party from adopting a different approach. Thus, the EC's preference for an approach different from the U.S. approach is irrelevant to the Panel's evaluation of whether the United States has met its burden of proof.⁴³⁸

333. The EC's criticisms of the methodology that the United States did chose are not valid. With regard to the "confidence" as to whether the methodology captured all contracts that matched the EC's criteria, the United States has explained how it derived those criteria from the EC's own arguments, and how knowledgeable officials within DoD used those criteria to identify the contracts. In light of the absence of any electronic records linking PE numbers to contracts, this was a reasonable way to gather information related to the EC's arguments. In the U.S. view, this process itself creates confidence that the results are substantially complete.

334. The EC also argues that the United States has provided no way to verify the information it submitted. The United States is not aware of any provision of the DSU that requires a responding party, in addition to providing evidence, to provide additional evidence "verifying" the actual evidence. In any event, as the remainder of the response to this question indicates, the EC provides no basis to believe that there is any meaningful omission in the process.

335. The EC also criticizes the United States for not providing exhibits or documented explanations of how it picked contracts.⁴³⁹ However, as the EC knows, it formulated its claim in terms of PE numbers, a way that DoD does not keep its contract-based information.⁴⁴⁰ Since the process conducted by DoD was conceived and planned specifically to address a question that DoD is not normally called upon to answer, there are no preexisting guidelines, rules, or

⁴³⁷ EC Comments on US RPQ1, para. 19.

⁴³⁸ The Panel should note that the EC's view of the amount and type of evidence necessary to rebut a claim of subsidization was markedly different when it was the respondent in another dispute involving large civil aircraft.

⁴³⁹ EC Comments on US RPQ1, para. 20.

⁴⁴⁰ The United States informed the EC at the consultations that it would be difficult for DoD to gather information to address claims based on PE numbers.

regulations that document the process. Thus, there is no established procedure for gathering such information that the United States could submit as an exhibit to document the procedure it devised to address the EC claims.

Finally, the EC attempts to support its criticisms regarding the U.S. identification of relevant contracts by asserting that the United States improperly omitted five contracts from its tally.⁴⁴¹ However, the exclusion of these contracts was entirely proper, as the United States explains in its response to Question 213.

336. **Coverage of goods and services.** The EC notes that it has challenged the provision of goods and services to Boeing for dual-use R&D, and criticizes the United States for not attempting to ascribe a value to these alleged provisions.⁴⁴² However, the EC has yet to provide any evidence that such provisions occurred outside of the context of one of the research contracts between DoD and Boeing,⁴⁴³ for which the United States did provide values, so it has made no *prima facie* case in this regard.

337. The EC is correct that certain DoD contracts provide for the agency to make available facilities, equipment, or services to advance the research objectives covered by the contract. However, the United States has shown that DoD makes these goods and services available under contracts and cooperative agreements to advance DoD's objectives, and that the price of the contract will reflect any value they might confer in the form of a lower price.⁴⁴⁴ The fact that the procurement contracts were subject to full and open competition further supports this conclusion. If access to DoD facilities, equipment, or services under the contract had value to a private enterprise, any bids would take that into account, with the result that competition would result in discounting the acquisition cost to remove any such value.⁴⁴⁵ Thus, there is no separate value of facilities or services for the United States to report.

338. **Subcontracts.** The EC notes that the United States has not reported the value of subcontracts under which Boeing allegedly performed work in support of other entities' independent contracts with DoD.⁴⁴⁶ This observation is correct, but irrelevant.⁴⁴⁷ As the United States has explained elsewhere, Boeing's subcontracts are not a financial contribution.⁴⁴⁸ In any

⁴⁴¹ EC SWS, para. 21.

⁴⁴² EC SWS, para. 22.

⁴⁴³ US FWS, para. 177.

⁴⁴⁴ US OS2, paras. 27-32.

⁴⁴⁵ US OS2, paras. 17-19.

⁴⁴⁶ EC SWS, para. 23.

⁴⁴⁷ US RPQ1, para. 10, US Comments on EC PRQ1, paras. 18-32.

⁴⁴⁸ The comments on the EC response to Question 3 address this issue in some detail. U.S. Comments on EC RPQ1, paras. 18-34. The U.S. response to question 130 provides additional analysis.

event, since contractors independently manage their relationship with subcontractors, DoD does not maintain information on disbursements to subcontractors.⁴⁴⁹ The United States submitted information from Boeing indicating that payments received under subcontracts represent [***] of its revenue for work related to government contracts.⁴⁵⁰

339. **Alleged underestimate by CRA.** The EC notes its disagreements with the U.S. criticism of CRA’s analysis. The United States has addressed those points at length elsewhere,⁴⁵¹ and will not repeat here. It then goes on to assert that CRA’s reliance on data for PE numbers undervalued actual RDT&E spending. It bases this assertion on a U.S. GAO report finding that one-third of all RDT&E funding is provided under budget codes that do not identify the work as RDT&E and that some activity descriptions “omit required information about the programs.”⁴⁵² However, the EC misunderstands the report. GAO was concerned that, although DoD’s PE coding system called for RDT&E funding to bear a PE beginning with “06,” RDT&E activities related to the development or modification of specific weapons systems frequently occurred under PE numbers for the systems, which began with other numbers.⁴⁵³ However, such PE coding practices would not have affected CRA’s conclusion because its analysis of RDT&E related to specific weapons systems captured research funded under PEs that began with numbers other than “06” – 0401318F for the V-22/CV-22, 0204136N for the F/A-18, and 0401130 for the C-17.⁴⁵⁴ Thus, CRA included the type of RDT&E activity that GAO thought was being mis-counted in the budget figures.⁴⁵⁵

340. GAO’s concern about the level of detail in activity descriptions does not support the EC’s assertion that CRA underestimated RDT&E spending, either. In this regard, the report observed that research activity descriptions occasionally had insufficient detail, did not show changes in program spending, and did not reflect interconnections among programs.⁴⁵⁶ Thus, the central problem was that the lack of detail fostered ambiguity. As we have noted, CRA systematically interpreted ambiguity in favor of a presumed civil use. Given that, even by CRA’s inflated count, military-only research greatly exceed dual-use research, any ambiguity in research

⁴⁴⁹ US RPQ1, para. 25.

⁴⁵⁰ Exhibits US-1242 and US-1243.

⁴⁵¹ See U.S. responses to Questions 207 and 208.

⁴⁵² EC SWS, para. 24.

⁴⁵³ GAO Program Element Coding Report, p. 4 (Exhibit EC-1316). GAO worried that these nuances of coding might leave unclear how much RDT&E activity DoD budget included in its budget.

⁴⁵⁴ Exhibit EC-7, p. 13.

⁴⁵⁵ GAO found that earlier stage research, which under the DoD system should have PE numbers beginning in 0601,0602, or 0603, was generally coded correctly. GAO Program Element Coding Report, pp. 4 and 8 (Exhibit EC-1316). Such activities represent 11 of the 13 “general aircraft RDT&E” program elements that the EC challenges. EC FWS, para. 676.

⁴⁵⁶ GAO Program Element Coding Report, p. 10 (Exhibit EC-1316).

descriptions is likely to have omitted indications of military use that would have forced the exclusion of more research activities that currently have generic descriptions.

213. *The Panel notes that the European Communities stated in para. 21 of its Comments on US RPQ1 that "there are several dual-use DOD contracts with Boeing and McDonnell Douglas that the European Communities identified in its First Written Submission that the United States has omitted from its tabulation in exhibit US-41", and pointed specifically to five contracts. The Panel notes that these five contracts were not included in the list of DOD contacts subsequently submitted by the United States on 10 January 2008 (exhibit US-1246). In particular, the United States has indicated that it will "inquire further" on two of the contracts cited by the European Communities (page 2 of the US letter dated 10 January). Please indicate what the result of such inquiry was.*

341. For the sake of completeness, the United States supplies more detailed information with regard to all five of the contracts in question:

Other Transaction N00014-00-3-0004 (High Rate Fiber Placement for Affordable Composite Structures) (Exhibit EC-496). DoD funded this contract under PE numbers 0602234N (Materials, Electronics and Computer Technology), 0602805N (Dual Use Science and Technology), and 0602236N (Warfighter Sustainment and Applied Research), which were not among the 23 PE numbers challenged by the EC.

Contract N00019-96-H-0118 (VMS Integrated Technology for Affordable Life Cycle Cost (VITAL) Program) (Exhibit EC-830) DoD funded this contract under PE number 0602714E, which is not among the 23 PE numbers challenged by the EC.

Cooperative Agreement F33615-95-2-5019 (Affordable Tooling for Rapid Prototyping and Limited Production of Composite Structures) (Exhibit EC-512) DoD funded this contract under PE numbers PE 0602712E (Materials and Electronics Technology and 0603570E (Defense Reinvestment), which were not among the 23 PE numbers challenged by the EC.

Cooperative Agreement F33615-96-2-5051 (Precision Assembly for Composite Structures) (Exhibit EC-513) DoD funded this contract under PE number 0602712E (Materials and Electronics Technology), which is not among the 23 PE numbers challenged by the EC.

Procurement Contract F33615-94-C-3007 (Aeromechanics Technology) (exhibit EC-1143) The document gathering process described in the response to Question 210 indicated that this met the selection criteria and was funded through one of the 23 PE numbers challenged by the EC. However, it was omitted from the tabulation in the original version of Exhibit US-41 because of a clerical oversight. The United States corrected this error in Exhibit US-41(revised). It also submitted all of the modifications,

which showed that DoD authorized only \$912,376 for this contract, rather than the \$1,503,882 alleged by the EC.⁴⁵⁷

Thus, the EC has identified only one incorrect omission from the contract set, with an amount of less than \$1 million, less than 0.5 percent of the value of all of the contracts identified by the United States. In addition, this does not reflect a methodological flaw. The contract identification process correctly captured this contract, which was omitted only later because of a clerical error. In short, the evidence cited by the EC merely serves to demonstrate further the completeness and accuracy of the U.S. process for identifying contracts responsive to the EC claims.

D. DOC AERONAUTICS RESEARCH & DEVELOPMENT

214. *In its FWS, the United States indicates that ATP is a cost-sharing program that uses Cooperative Agreements as funding instruments. (US FWS, para. 360) According to the United States, payments made to participants through Cooperative Agreements under the ATP program involve a "direct transfer of funds". (US FWS, para. 395) Please explain why payments made to participants through Cooperative Agreements under the ATP involve a "direct transfer of funds", whereas payments made to Boeing through Cooperative Agreements under the NASA and DOD R&D programmes at issue constitute the "purchase of a service".*

342. As the United States and the EC have agreed, it is the substance of a transaction, and not its form, that determines whether it constitutes a financial contribution under Article 1.1(a)(1), and what type of financial contribution it is. Although ATP and DoD and NASA R&D programs may use cooperative agreements to formalize research arrangements, they use these instruments in different contexts and for different purposes. A cooperative agreement is simply one form of a legal instrument, and it is the content of the instrument that determines whether it involves a direct transfer of funds or a purchase of services. ATP uses cooperative agreements not to purchase any goods or services, but to fund ATP projects without any expectation that the research will improve the operations of ATP, the National Institute of Standards and Technology ("NIST"), or the U.S. Department of Commerce. In contrast, DoD and NASA used the challenged cooperative agreements to fund R&D projects, the agencies took part in shaping the projects with an anticipated, albeit indirect, benefit to the U.S. government.

343. ATP was created by the U.S. Congress to assist U.S. companies in funding early-stage, high risk research into innovative technologies that could deliver broad-based economic rewards to the United States as a whole.⁴⁵⁸ Absent ATP funding, these technologies might not otherwise

⁴⁵⁷ Exhibit US-1248, p. 10/44.

⁴⁵⁸ US FWS, para. 360 and 15 C.F.R. § 295.1(a) (Exhibit EC-534).

be developed because they would be considered too risky by industry.⁴⁵⁹ More specifically, ATP's mission is:

to accelerate the development of innovative technologies for broad national benefit through partnerships with the private sector. ATP accomplishes this mission by providing cost-shared funding to industry for fledgling technologies that are high risk in nature, but which could lead to positive spillovers for other companies and industries, thereby boosting the U.S. economy and enhancing the quality of life of Americans.⁴⁶⁰

ATP supports early-stage technologies that are important to the development of new products, processes, and services across diverse areas of application.⁴⁶¹

344. In light of ATP's purpose to assist U.S. companies with technology research that has broad based economic benefits, ATP uses cooperative agreements as an instrument to support projects. Although the program monitors ATP projects, neither the administering agency, NIST, nor the U.S. Government receive any operational improvements, goods, or services in return for the funding that is provided.⁴⁶²

345. DoD and NASA, by contrast, use cooperative agreements as a means to encourage and shape R&D of particular interest to the agencies and to secure intellectual property rights in data and inventions that they ultimately may be able to use for their benefit (and the benefit of other U.S. government constituencies). For DoD, that means developing technology to advance its warfighting capabilities. For NASA, that means developing aerospace technologies in fulfillment of NASA's mission.⁴⁶³ The NASA cooperative agreements applicable to this dispute were exclusively related to aviation safety. As the United States explained in its response to Panel Question 20, the issue of cooperative agreements primarily pertains to DoD because NASA rarely entered into cooperative agreements with Boeing under the programs challenged by the EC.⁴⁶⁴ Unlike ATP, the purpose of the DoD research is to advance research for eventual

⁴⁵⁹ US FWS, para. 360 and NIST, *Measuring ATP Impact: 2006 Report on Economic Progress*, p. 13 (March 2007) (Exhibit US-149).

⁴⁶⁰ NIST, *Measuring ATP Impact: 2006 Report on Economic Progress*, p. 2 (March 2007) (Exhibit US-149).

⁴⁶¹ Replies to Questions Posed by Chile, the European Community, Mexico and Poland Regarding the New and Full Notification of the United States, G/SCM/Q2/USA/20, p. 10 (April 7, 1999) (Exhibit EC-547)

⁴⁶² Paragraphs 377-378 of the US FWS provide details of ATP's project monitoring and oversight.

⁴⁶³ Space Act, § 102(d) (Exhibit EC-286).

⁴⁶⁴ US RPQ1, para. 46. NASA entered into only one cooperative agreement directly with Boeing, and another cooperative agreement with an enterprise called Jeppesen-Sanderson, Inc. in June 2000, which Boeing purchased, along with its cooperative agreement, in October 2000.

military application. This is evidenced by the statute that provides the general authority for DoD to perform RDT&E activities, 10 U.S.C. § 2358(a), which states:

The Secretary of Defense or the Secretary of a military department may engage in basic research, applied research, advanced research, and development projects that—

(1) are necessary to the responsibilities of such Secretary’s department in the field of research and development; and

(2) either—

(A) relate to weapon systems and other military needs; or

(B) are of potential interest to the Department of Defense.⁴⁶⁵

346. This statute applies to research that DoD conducts using cooperative agreements, as well as grants and contracts. Its language makes clear that when DoD engages in research, that research must be “necessary” to DoD and either relate to “weapons systems and other military needs” or be of “potential interest” to DoD.⁴⁶⁶ In other words, the research has value to DoD itself. As a result, DoD is not merely directly transferring funds; it is receiving something of value in return for the funding it provides. In the case of the cooperative agreements entered into with Boeing, the value that DoD receives consists of the services performed by the private party and intellectual property rights. As the United States previously explained, the substance of each of the cooperative agreements that DoD entered into with Boeing provides further evidence that the transactions were purchases of services for purposes of Article 1.1(a)(1).⁴⁶⁷

347. The substance of the two NASA cooperative agreements at issue in this dispute also demonstrates that they were not simply direct transfers to Boeing.⁴⁶⁸ Cooperative agreement NCC 1-287 was for research to develop an Aviation Weather Information System, and Boeing received payment based on the achievement of “performance-based verifiable” milestones negotiated between Boeing and NASA.⁴⁶⁹ Boeing, among others, provided services under the cooperative agreement, and NASA provided funding.⁴⁷⁰ Accordingly, the purpose and substance of cooperative agreement NCC 1-287 make clear that it was for the purchase of services.

⁴⁶⁵ 10 U.S.C. § 2358(a) (Exhibit US-1205).

⁴⁶⁶ 10 U.S.C. § 2358(a) (Exhibit US-1205).

⁴⁶⁷ US RPQ1, paras. 52-56 and Exhibit US-1207.

⁴⁶⁸ US RPQ1, paras. 58-59; NCC-1-287 Memorandum, (Exhibit US-588); and Cooperative Agreement NCC-1-343 (Exhibit US-597).

⁴⁶⁹ NCC-1-287 Memorandum, Part C, para. 5 (Exhibit US-588).

⁴⁷⁰ NCC-1-287 Memorandum, Part C, para. 6 (Exhibit US-588).

348. Similarly, the purpose of the second NASA cooperative agreement at issue, NCC-1-343, also demonstrates that it was for the purchase of services. Its purpose was to “conduct a shared resource project that will lead to the development of a certifiable life-cycle process for the use of terrain, obstacle, and airport mapping databases in aviation.”⁴⁷¹ The statement of work provided for investigation and documentation of information regarding potential data sources, development of an acquisition strategy for data, recommendations for ways to integrate databases from a variety of sources, development of application programming interface, and development of test databases for certain airbases, among other things.⁴⁷² The purpose of the cooperative agreement to develop a database that would enable synthetic vision systems⁴⁷³ was the purchase of services from Jeppesen Sanderson, Inc., which was later bought by Boeing.

349. In sum, unlike the use of cooperative agreements for the conduct of RDT&E activities relevant to agency operations for DoD and NASA R&D, cooperative agreements are not used by ATP for the improvement of agency operations or for the purchase of any goods or services. Rather, ATP uses cooperative agreements to support projects to accomplish a public purpose of support or stimulation authorized by federal statute, where substantial involvement (e.g., collaboration, participation, or intervention by ATP in the management of the project) is anticipated between ATP and the funding recipient during performance of the project. The differences in the use of cooperative agreements stems from the different purposes of the programs. Nor should it be surprising that one contractual vehicle may be used for different purposes. In many situations, the same type of legal instrument may be used to accomplish different goals. For instance, a procurement contract may be used to purchase a good, or purchase a service, among other things.

E. INTELLECTUAL PROPERTY RIGHTS

220. *At p. 31 of EC-1176, CRA states that " as a subcontractor, Boeing retains valuable intellectual property rights." Could the parties please elaborate on how intellectual property rights are treated under sub-contracts, including the governing legal framework concerning the allocation of rights as between the prime contractor, the sub-contractor, and the government.*

350. Under the legal and regulatory framework governing the allocation of intellectual property rights in acquisition contracts, subcontractors are granted the same rights and protections as prime contractors. The key authority for inventions and patents is the Bayh-Dole Act requirements at 35 U.S.C. §§ 202-204. For rights in technical data, the key authorities are 10 U.S.C. §§ 2320 & 2321 for DoD,⁴⁷⁴ and 41 U.S.C. §§ 253d and 418a⁴⁷⁵ for civilian agencies.

⁴⁷¹ Cooperative Agreement NCC-1-343, p. 5 (Exhibit US-597).

⁴⁷² Cooperative Agreement NCC-1-343, pp. 22-24 (Exhibit US-597).

⁴⁷³ Cooperative Agreement NCC-1-343, p. 5 (Exhibit US-597).

⁴⁷⁴ Exhibit US-1290.

These are all implemented (and applied to computer software) by 48 CFR Part 27,⁴⁷⁶ 48 CFR Part 227⁴⁷⁷ (for DoD), and 48 CFR Part 1827 (for NASA),⁴⁷⁸ along with the associated standard contract clauses.⁴⁷⁹ These laws, regulations, and contract clauses apply expressly to contractors and subcontractors at any tier, and prime contractors must use the associated FAR and DFARS clauses for subcontracts at all tiers. When the intellectual property clauses flow down to subcontracting tiers, the rights and obligations of the Government are unchanged, and the subcontractor assumes the rights and obligations provided for the “contractor” in the clause language. In this arrangement at the subcontract level, standard contract clauses do not provide the prime contractor (or any higher tier subcontractor) with any rights in the subcontractor’s intellectual property.

F. IR&D AND B&P

221. *Is the Panel correct in its understanding that IR&D and B&P reimbursements are made only in connection with “cost-based” Procurement Contracts?*

351. Yes. Where a contractor’s actual or estimated costs are factors controlling the amount paid (in price) or reimbursed under a Government procurement contract, IR&D and B&P costs are part of those actual or estimated costs. Conversely, if a Firm Fixed Price contract is awarded on the basis of price competition or market or catalog price, reasonableness is established not by examination of proposed costs, but rather by comparison with competitors’ prices, or established catalog or market prices. In the firm fixed price situation, the payment to the contract does not depend on the costs the contractor may or may not incur, such as IR&D and B&P costs, but is the dollar amount agreed between DoD and the contractor.⁴⁸⁰ The regulation at 48 CFR § 31.103 specifies the cost principles under 48 CFR Subpart 31.2 (including the IR&D and B&P cost principle at 48 CFR § 31.205-18⁴⁸¹) that apply to contracts with commercial organizations. In essence, 48 CFR § 31.103 provides that the cost principles in Subpart 31.2 and related agency supplements (*e.g.*, 48 CFR § 231.2 *et seq.*) shall be used in pricing negotiated contracts with commercial organizations whenever cost analysis is performed.

222. *At paragraph 864 of its FWS, the European Communities states that, according to the FAR, costs for IR&D and B&P are “allowable” as indirect expenses on contracts to the*

⁴⁷⁵ Exhibit US-1291.

⁴⁷⁶ Exhibit US-147.

⁴⁷⁷ Exhibits US-148 and EC-590.

⁴⁷⁸ Exhibits US-141 and US-1292.

⁴⁷⁹ *E.g.*, 48 CFR § 52.227-12 (Exhibit US-138) and 48 CFR § 1852.227-70 (Exhibit US-139).

⁴⁸⁰ Under allocation rules, indirect costs are still allocated to these contracts, but are not reimbursed. If the indirect costs change, the firm fixed price stays the same.

⁴⁸¹ Exhibits EC-597 and EC-598.

extent that those costs are "allocable" and "reasonable". The European Communities then states that the DFAR imposes an additional limitation that costs be of "potential interest to DOD". The European Communities states that this additional "potential interest" requirement is met if activities are intended to "strengthen the technology base of the United States" and "enhance the industrial competitiveness of the United States". Could the parties please provide further details on, and the relationship between, the concepts of: (i) "allowable" costs; (ii) "allocable" costs; (iii) "reasonable" costs; and (iv) "potential interest" in the form of activities are intended to "strengthen the technology base of the United States" and "enhance the industrial competitiveness of the United States".

352. By way of overview, “allowability” and “allocability” are the first-level criteria in determining whether a cost may be included in the total costs paid under a U.S. government cost-based contract. The allowability and allocability of costs are determined by a number of other requirements. Among the requirements for allowability is that the cost be “reasonable.” Stated in the reverse, if a cost does not meet the standards for “reasonableness,” it is not allowable. These standards apply to all U.S. government contracts. The “potential interest” standard referenced by the question is an additional requirement for the allowability of IR&D and B&P costs on certain DoD contracts. The standard does not apply to IR&D or B&P costs under other agencies’ contracts.

353. **Allocable costs.** As an operational matter, the first step under the U.S. government Cost Accounting Standards (“CAS”), which apply to all Boeing contracts with the government, is to properly measure and assign costs to accounting periods (*e.g.*, through rules like CAS 404, Capitalization of Tangible Assets, and CAS 409, Depreciation⁴⁸²) and then to allocate them to cost objectives of the correct accounting period. Under 48 CFR § 31.201-4 (Exhibit US-129):

A cost is allocable if it is assignable or chargeable to one or more cost objectives on the basis of relative benefits received or other equitable relationship. Subject to the foregoing, a cost is allocable to a Government contract if it--

- (a) Is incurred specifically for the contract;
- (b) Benefits both the contract and other work, and can be distributed to them in reasonable proportion to the benefits received; or
- (c) Is necessary to the overall operation of the business, although a direct relationship to any particular cost objective cannot be shown.

Under the CAS, all costs of an accounting period are allocable to contracts (final cost objectives) performed during the period. The CAS contain several rules for determining allocability. CAS

⁴⁸² 48 CFR § 9904.404 and 48 CFR § 9904.409, respectively (Exhibits US-1285 and US-1286).

420, Independent Research and Development and Bid and Proposal Costs,⁴⁸³ defines IR&D and B&P, provides rules for their measurement on a project-by-project basis, and provides generally for their allocation first to the “segment” of the enterprise to which they are related, and then to contracts within that segment across the same broad cost input base as is used for General and Administrative Costs. To generalize, an IR&D or B&P cost is allocable to a contract only if the cost benefits that contract. If an IR&D or B&P cost benefits both military and civil contracts, it would have to be allocated across all of those contracts. If an IR&D or B&P cost does not benefit a military contract, it may not be allocated to that contract.

354. It bears repeating that if a cost is not allocated to a government contract, it is not reimbursed. Actual IR&D and B&P costs will be reimbursed only if they are allocated to a government contract, the terms and conditions of which provide for either reimbursement of incurred costs or pricing (e.g., under a Fixed Price Incentive, Firm Target type of contract) based on projected and actual costs.

355. **Allowable costs.** Once all costs are properly measured, assigned, and allocated in accordance with the CAS, then the allowability of the costs must be tested on each contract using the criteria in 48 CFR § 31.201-2 (Exhibit US-129), which provides that:

A cost is allowable only when the cost complies with all of the following requirements:

- (1) Reasonableness,
- (2) Allocability,
- (3) Standards promulgated by the CAS Board, if applicable; otherwise, generally accepted accounting principles,
- (4) Terms of the contract, and
- (5) Any limitations set forth in this subpart.⁴⁸⁴

This standard also appears in government contracts in the form of the clause at 48 CFR § 52.216-7, “Allowable Cost and Payment,” which provides in relevant part that the contractor shall be reimbursed “in amounts determined to be allowable by the Contracting Officer in accordance with FAR subpart 31.2 in effect on the date of the contract.”⁴⁸⁵

⁴⁸³ 48 CFR § 9904.420 (Exhibit US-1287).

⁴⁸⁴ The subpart defines several classes of costs as not allowable, including advertising costs other than recruiting costs, bad debts, most fines and penalties incurred by the contractor, and lobbying and political activity costs 48 CFR §§ 31.205-1, 31.205-3, 31.205-15, and 31.205-22.

⁴⁸⁵ 48 CFR § 52.216-7 (Exhibit US-27).

356. **Reasonable costs.** Reasonableness is one of the tests used to determine allowability. Under 48 CFR § 31.201-3 (Exhibit US-129), a cost is reasonable if “in its nature and amount, it does not exceed that which would be incurred by a prudent person in the conduct of competitive business.” The FAR provide a list of considerations to use in applying this standards:

What is reasonable depends upon a variety of considerations and circumstances, including –

- (1) Whether it is the type of cost generally recognized as ordinary and necessary for the conduct of the contractor's business or the contract performance;
- (2) Generally accepted sound business practices, arm's length bargaining, and Federal and State laws and regulations;
- (3) The contractor's responsibilities to the Government, other customers, the owners of the business, employees, and the public at large; and
- (4) Any significant deviations from the contractor's established practices.

357. **“Potential interest.”** Assuming that a properly allocated cost – that is, one allocated in accordance with CAS – passes scrutiny for reasonableness, and absent any specific contract terms limiting the allowability, the next requirement is that it be consistent with “{a}ny limitations set forth in this subpart,” namely, 48 CFR Subpart 31.2. The terms of contracts reflect this principle, as 48 CFR § 31.103(b) requires the contracting officer to incorporate the cost principles in Subpart 31.2 and agency supplements (such as 48 CFR Subpart 231.2 for DoD contracts) by reference in any contracts with commercial organizations. Accordingly, the clause at 48 CFR § 252.231-7000, “Supplemental Cost Principles,” which applies only to DoD contracts, provides that when allowability of costs under the contract is determined in accordance with FAR Part 31, “allowability shall also be determined in accordance with part 231 of the Defense FAR Supplement, in effect on the date of this contract.”

358. The requirement unique to DoD that IR&D and B&P projects be of “potential interest to DoD” appears at 48 CFR § 231.205-18. This provision does not expand the pool of allowable IR&D costs or disallow IR&D costs that would otherwise be allowable. Rather, it places a cap on the total amount of IR&D and B&P costs that are allowable:

For major contractors, the following limitations apply:

(A) The amount of IR&D/B&P costs allowable under DoD contracts shall not exceed the lesser of –

- (1) Such contracts' allocable share of total incurred IR&D/B&P costs; or

(2) The amount of incurred IR&D/B&P costs for projects having potential interest to DoD.⁴⁸⁶

If a cost is not allocable to a cost objective, such as a contract, this provision does not change its allocability. If a cost is not allowable in the first place because it is unreasonable or otherwise inconsistent with the FAR, this provision would not make it allowable. The only thing that it does is to put a cap on the amount of otherwise allocable and allowable IR&D and B&P expenses that may be allowed and, therefore, limits the amount that may be reimbursed.⁴⁸⁷ It does not expand the universe of allowable IR&D costs.

223. *The United States submits that IR&D and B&P reimbursements are "not paid separately" and are "part of" or "subsumed in" in the purchase price for goods or services. (US FWS, para. 283) Please elaborate on the mechanism(s) through which IR&D and B&P reimbursements are made to contractors.*

359. As outlined in the response to Question 222, a government agency makes payments to its contractor under cost reimbursement contracts pursuant to the Allowable Cost and Payment clause (48 CFR § 52.216-7) (Exhibit US-27). It provides that

The Government will make payments to the Contractor when requested as work progresses, but not more often than every 2 weeks, in amounts determined to be allowable by the Contracting Officer The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as the representative may require, an invoice or voucher supported by a statement of the claimed allowable cost for performing this contract.⁴⁸⁸

⁴⁸⁶ The regulation continues to specify that "potential interest to DoD" includes:

- (1) Enable superior performance of future U.S. weapon systems and components.
- (2) Reduce acquisition costs and life-cycle costs of military systems.
- (3) Strengthen the defense industrial and technology base of the United States.
- (4) Enhance the industrial competitiveness of the United States.
- (5) Promote the development of technologies identified as critical under 10 U.S.C. 2522.
- (6) Increase the development and promotion of efficient and effective applications of dual-use technologies.
- (7) Provide efficient and effective technologies for achieving such environmental benefits as: Improved environmental data gathering, environmental cleanup and restoration, pollution reduction in manufacturing, environmental conservation, and environmentally safe management of facilities.

⁴⁸⁷ The use a numerical example, if the IR&D and B&P allowable and allocable to a segment are \$10 million, but only \$9 million of those costs are of potential interest to DoD, only \$9 million will be allocated to the segment. If, on the other hand, the allowable and allocable costs were \$10 million, but there were \$11 million in costs of potential interest to DoD, only \$10 million would be allocated to the segment.

⁴⁸⁸ 48 CFR § 52.216-7(a) (Exhibit US-27).

In practice, contractors make such requests using form SF 1034, “Public Voucher for Purchases of Services Other than Personal,”⁴⁸⁹ or an equivalent. IR&D and B&P costs are simply part of the roll-up of aggregate direct and indirect costs incurred and invoiced by the contractor and reimbursed by the government. All costs – direct and indirect – properly allocated to a contract are part of the contract performance costs, and those that the Contracting Officer determines to be allowable are reimbursable. This includes IR&D and B&P costs. This mechanism makes IR&D and B&P costs, which are identifiable and auditable in the context of the contractor’s accounting system, an indistinguishable, integral part of the agreed upon payment for the performance of the contract. It is no different from top management salaries, costs of pensions, or state and local taxes that are allocable and allowable on government contracts.

224. *What does the United States mean when it states that a review of the contracts submitted by the United States “will show that there is no separate allowance” in any of the contracts for reimbursement of IR&D or B&P? (US RPQ1, para. 40)*

360. The United States means that IR&D and B&P are not separate line items in the contract, with separate prices attached.⁴⁹⁰ In fact, as the response to Question 223 notes, in contractor requests for payment under a contract, IR&D and B&P costs are allocated as overhead expenses among contracts in accordance with the CAS and rolled up into the requested reimbursement for total effort during the relevant period, as calculated under the applicable cost principles.

G. FSC/ETI AND SUCCESSOR ACT SUBSIDIES

226. *Please respond to para. 76 of the EC OS2, which reads:*

“The United States does, however, assert, without any credible evidence, that Boeing will not take advantage of the FSC/ETI tax breaks after 2006. The United States claims that it “has submitted all of the information on this topic available to it,” and that it cannot submit “unavailable evidence.” The logical conclusion is that the evidence is “unavailable” because Boeing is unwilling to provide a sworn affidavit or other form of evidence that makes it clear that Boeing has not claimed, and will not claim, available FSC/ETI tax benefits after 2006. The European Communities has explained that taking advantage of post-2006 FSC/ETI tax benefits would be fully consistent with the US Government’s guidance from December 2006.” (footnotes omitted)

361. In the comment quoted in this question, the EC repeats a rhetorical tactic of proclaiming an evidentiary hurdle without any support in the DSU, and then stating that the absence of the

⁴⁸⁹ Form SF 1034 (Exhibit US-1288).

⁴⁹⁰ E.g., Procurement Contract F33615-94-C-5009, pp. 2-3 (Exhibit US-622) (showing line items for services and hardware, but no line item for IR&D or B&P).

EC's favored evidence means that the United States has not met its burden of proof.⁴⁹¹ In fact, there are many forms of evidence in addition to affidavits. The U.S. in this instance has chosen to rely on a statement in Boeing's financial report stating that it will not take advantage of FSC/ETI benefits after 2006. The EC has provided no evidence to the contrary. Its only rebuttal is to assert that Boeing would be *eligible* for that subsidy. However, eligibility and actual use are two very different concepts. Even if the EC had proven that Boeing would qualify for FSC/ETI benefits on the basis of the IRS memorandum, that would not constitute evidence that the company actually will use those benefits.

H. DOL GRANT

227. *Please respond to paras. 626-627 of the European Communities' SWS.*

362. In paragraphs 626-627 of its SWS, the EC asserts that the United States has provided no evidence that a grant from the Department of Labor (DoL) to Edmonds Community College was to develop a curriculum, rather than to train workers to build the 787, as the EC maintains is the case. Contrary to the EC's assertion, the United States presented detailed evidence in its FWS, using the EC's own exhibits, that Edmonds Community College is using the grant for curriculum development, rather than worker training.⁴⁹² The United States now submits further documentation – a letter from Jerrilee Mosier, the Vice President of Workforce Development and Training at Edmonds Community College – attesting to the fact that Edmonds Community College used its grant from the Department of Labor for curriculum development, rather than 787 worker training.⁴⁹³ This is additional evidence that the Department of Labor grant confers no benefit on Boeing's LCA division and provides no subsidy to Boeing.

363. The EC asserts that “what is actually written in the grant's Statement of Work” does not support the claim of the United States that the grant was used for curriculum development.⁴⁹⁴ But as the United States explained in detail in its FWS, the Statement of Work provides clear evidence that the grant to Edmonds Community College was, in fact, used for curriculum development.⁴⁹⁵ To recap, the Statement of Work provides that the objective of the project is to

⁴⁹¹ EC Comments on US RPO1, para. 6, discussed in U.S. response to Question 186.

⁴⁹² US FWS, paras. 410-412.

⁴⁹³ Letter from Jerrilee Mosier, Vice President of Workforce Development and Training, Edmonds Community College, to Robert Hamilton, Governor's Advisor for Trade Policy (March 21, 2008) (Exhibit US-1289).

⁴⁹⁴ EC SWS, para. 626. The EC submitted the Statement of Work in this dispute as Exhibit EC-622, Statement of Work for Edmonds Community College Grant Notification.

⁴⁹⁵ US FWS, paras. 411-412, 415-416. As the United States explained in its FWS, although the initial proposal by Edmonds Community College contained a training component, the college did not actually use the grant for worker training. US FWS, para. 415 and n. 561. The letter from Jerrilee Mosier, Vice President of Workforce Development and Training, Edmonds Community College, to Robert Hamilton, Governor's Advisor for Trade Policy (March 21, 2008) (Exhibit US-1289) further explains: “Although our initial proposal contemplated using a portion of the funding for worker training, we ultimately decided to use all of the funds from that grant for

“develop advanced manufacturing curriculum through the application of advanced theories of cognition for a continuum of training opportunities designed to optimize and accelerate learning processes.”⁴⁹⁶

364. The “Work Plan” for the project set out in the Statement of Work includes “curriculum development activities” that focused on two separate areas: 1) “Curriculum Structure” and 2) “Curriculum Content/Major Skill Areas.”⁴⁹⁷ The project’s deliverables include “a systems level curriculum roadmap with supporting course materials,” “{m}aterials developed with an established Instructional Design Standard (IDS) for the curriculum and course materials,” and “learning activities that produce integrated skills” in the curriculum’s content.⁴⁹⁸ Nowhere do the project deliverables mention any worker training programs.

365. Another exhibit submitted by the EC – a Fact Sheet on the grant to Edmonds Community College – further supports the evidence found in the Statement of Work that the college used the Department of Labor grant for curriculum development, rather than worker training. This Fact Sheet states: “Edmonds Community College has submitted a proposal designed to develop standard advanced-manufacturing, high-technology curriculum for aerospace training opportunities for technicians in Snohomish County Washington.”⁴⁹⁹ Clearly, the EC’s assertion regarding the alleged failure of the United States to provide “concrete evidence” about the purpose and use of the grant lacks merit.

366. In the EC’s SWS, it offers three new alleged facts in support of its “reasonable” conclusion that the Department of Labor grant to Edmonds Community College benefited Boeing.⁵⁰⁰ But these supposed facts in no way prove that Edmonds Community College used its grant for 787 worker training. First, the EC cites a Snohomish County Workforce Development Council newsletter that mentions the use of the grant for curriculum development and online classes for 787 technicians. But according to a letter from Edmonds Community College, “contrary to the statement in the July 2007 Workforce Development Council of Snohomish

curriculum development.” The EC’s failure to understand how the grant was used may result from the fact that the initial proposal by Edmonds Community College was incorporated by the Department of Labor as the Statement of Work.

⁴⁹⁶ Statement of Work for Edmonds Community College Grant Notification at § 4 (Exhibit EC-622) (emphasis added).

⁴⁹⁷ Statement of Work for Edmonds Community College Grant Notification at § 6(a) (Exhibit EC-622) (emphasis added).

⁴⁹⁸ Statement of Work for Edmonds Community College Grant Notification at § 6(a) (Exhibit EC-622).

⁴⁹⁹ The President’s High Growth Job Training Initiative, The Triad Initiative Fact Sheet (Exhibit EC-619) (emphasis added).

⁵⁰⁰ EC SWS, para. 627.

County, none of the funds from the grant were used for worker training.”⁵⁰¹ Second, the EC cites a press report regarding Boeing’s use of composites and federal and state grants to Edmonds and Everett Community Colleges “to build programs and facilities” to help train future workers in composites. But nowhere does this press report mention the Department of Labor grant to Edmonds Community College pursuant to the High Growth Job Training Initiative. Accordingly, it provides no support for the EC’s conclusion regarding the use of the grant at issue in this dispute. Third, the EC points out that Edmonds Community College is running a training program for 787 workers at the Employment Resource Center. This too is irrelevant to the question of the use Department of Labor grant because the EC does not allege, nor is it correct that, the grant funding at issue was used to fund this training program. Because the Department of Labor grant to Edmonds Community College was used for curriculum development, rather than training for 787 workers, the grant provides no benefit to Boeing.

367. In any event, even if there were a benefit to Boeing, the Department of Labor grant to Edmonds Community College is not an actionable subsidy because it is not specific, as fully set forth in the US FWS, paragraphs 417-421. In its SWS, the EC argues that the grant to Edmonds Community College is specific when examined only in light of that particular grant, or in other words, at the project level.⁵⁰² The EC essentially advances the same flawed specificity argument that it does with respect to the specificity of ATP at the project level. But, as with ATP, the EC has put forward no reasoned basis to analyze specificity at the level of the one grant at issue, and in fact, none exists.⁵⁰³ Grants awarded pursuant to the President’s High Growth Job Training initiative are neither *de jure* nor *de facto* specific under Article 2.1.⁵⁰⁴

I. STATE OF WASHINGTON AND MUNICIPALITIES THEREIN

1. Tax measures provided for in HB 2294 and Ordinance 2759-04

(a) General

228. *It appears that both parties rely on the information contained in Exhibit US-184 ("Washington State Department of Revenue Final HB 2294 Fiscal Note - 20-Year Spreadsheet") for the purpose of estimating the amount of any alleged subsidies provided to Boeing through HB 2994. Do the parties agree that, if the Panel were to find that some or all of the tax measures provided for in HB 2294 constitute subsidies, the Panel could rely on Exhibit US-184 to estimate the amount of the subsidy?*

⁵⁰¹ Letter from Jerrilee Mosier, Vice President of Workforce Development and Training, Edmonds Community College, to Robert Hamilton, Governor’s Advisor for Trade Policy (March 21, 2008) (Exhibit US-1289).

⁵⁰² EC SWS, paras. 628-630.

⁵⁰³ See US RPQ1, paras. 142-149.

⁵⁰⁴ US FWS, paras. 417-421.

368. The United States agrees that if the Panel were to find that some or all of the tax measures provided for in HB 2294 constitute subsidies, the Panel could rely on Exhibit US-184, in part, to estimate the amount of the subsidy. However, it is important to clarify three points.

369. First, for the reasons set forth by the United States in previous submissions, even if the Panel were to find that a particular tax measure in HB 2294 were a subsidy, any financial contribution under Article 1.1(a)(1)(ii) can only include revenue that has been foregone through the end of 2007.⁵⁰⁵

370. Second, if the Panel were to include revenue foregone after 2007, the United States agrees with the EC that the tax measures are provided through 2024, not 2023. For this purpose, and as discussed in more detail in response to Question 230 below, the United States accepts the EC's projection for 2024 of the total amount of the alleged financial contribution under each of the tax measures in HB 2294.

371. However, because Exhibit US-184 sets forth the total expected fiscal impact under each of the tax measures in HB 2294, including the impact with respect to entities other than Boeing, Exhibit US-184 overstates the amount of any alleged subsidy that is actually provided to Boeing. With respect to the B&O tax adjustment, the EC erroneously maintains that virtually all of the B&O tax adjustments provided to aircraft component manufacturers pass through and benefit Boeing.⁵⁰⁶ However, as the United States has set forth previously, there is no basis for the EC's claim of pass-through as it relates to the B&O tax adjustment.⁵⁰⁷ Instead, the United States submits that the Panel should rely on the Washington State September 2003 presentation for the value of the B&O tax adjustment that is provided to Boeing, on which the EC also relies.⁵⁰⁸ The State's projection is that 65 percent of the total value of the B&O tax adjustment is provided to Boeing over the life of the program.⁵⁰⁹

372. With respect to the B&O tax credits, the United States accepts the EC's estimate that Boeing receives 65 percent of the B&O tax credits for preproduction development and 100 percent of the B&O tax credits for computer software and hardware.⁵¹⁰ With respect to the B&O tax credits for property taxes, the United States accepts the EC's estimate that 100 percent of the value of the tax credit is provided to Boeing. Finally, the United States accepts the Washington State estimate, on which the EC relies, that 80 percent of the sales and use tax exemption for computer hardware, software, and peripherals is provided to Boeing.

⁵⁰⁵ US FWS, paras. 462-466.

⁵⁰⁶ EC FWS, para. 131, n. 213; Exhibit EC-21.

⁵⁰⁷ US FWS, paras. 467-81; US OS2, paras. 102-106.

⁵⁰⁸ EC FWS, para. 131, n. 213; Exhibit EC-21.

⁵⁰⁹ September 2003 Presentation at Appendices (Exhibit EC-65).

⁵¹⁰ EC SWS, para. 68, n. 102-103.

229. *The European Communities estimates that over the period FY 2004 through FY 2024, Washington State will forego nearly \$2.12 billion from Boeing as a result of the B&O tax rate reductions, \$1.15 billion from LCA component manufacturers in Washington State as a result of the B&O tax rate reductions, and \$0.29 billion from Boeing as a result of the other tax incentives contained in HB 2294. (EC FWS, para. 131) The European Communities estimates that the City of Everett will forego \$67.5 million from Boeing as a result of the local B&O tax rate reduction over the period 2006 through 2023. (EC FWS, para. 131) Is it necessary for the Panel to arrive at a total dollar-figure amount (e.g. "\$2.12 billion") of the Washington tax measures on the basis of projected future sales / deliveries? Insofar as the tax reductions are calculated on an ad valorem basis (e.g. "0.2%") would the corresponding subsidization rate on a per-airplane basis not remain constant (e.g. "0.2%") irrespective of the total dollar-figure amount, and irrespective of how many sales / deliveries actually take place over the period FY 2004 through FY 2023/2024?*

373. Arriving at a total dollar-figure subsidy amount for the Washington tax measures is not necessary to determine whether a benefit is conferred within the meaning of Article 1.1(b). To the extent the Panel finds it appropriate to calculate a total dollar-figure amount for these measures, such an amount should, as noted in the U.S. response to Question 228, exclude financial contributions to entities other than Boeing and reflect only revenue foregone through the end of 2007.

374. Moreover, the Panel correctly indicates that because the Washington tax measures are calculated on an *ad valorem* basis, any subsidization rate would remain constant regardless of the absolute levels of Boeing's sales volume and prices during the 2006-2024 period. If the Panel were to find, despite the evidence to the contrary, that the Washington tax measures are actionable subsidies, then the alleged subsidization rate would be most relevant to the magnitude element of the adverse effects analysis.

375. However, the analysis of the magnitude and effects of the Washington tax measures must proceed based on their nature; even if the Panel were to conclude that the tax measures are actionable subsidies, there is no basis to conclude that they cause displacement or impedance or significant price suppression or lost sales.

376. First, the EC has failed to provide evidence to support its assertion that the Washington tax measures have a "dollar-for-dollar" effect on Boeing's large civil aircraft pricing.⁵¹¹ Second, the EC's assertions that the Washington tax measures affect Boeing's aircraft pricing at the time of order are contradicted by the uncontested evidence that Boeing only realizes the tax reductions provided by these measures at the time of delivery, which is often many years after the order is placed.⁵¹² In light of these flaws, there is no basis for concluding that an *ad valorem*

⁵¹¹ US SWS, para. 183.

⁵¹² US FWS, paras. 816, 825; US Comments on EC RPQ1, para. 260.

subsidization rate associated with the Washington tax measures, as a proxy for alleged subsidy magnitude, is equivalent with these measures' effects, if any, on Boeing's large civil aircraft pricing.

377. Even if one assumes, contrary to the evidence on the record, that the Washington tax measures lower Boeing's prices on a "dollar-for-dollar" basis, the EC has failed to demonstrate that this would have a significant effect on Airbus' sales or pricing. To use the *ad valorem* rate referenced in Question 229, two-tenths of one percent is not a large amount in the context of the large civil aircraft industry. The EC's own assertions show as much: the EC alleges decisive price differentials in particular sales campaigns; the Washington tax measures, even if they led to "dollar-for-dollar" reductions in Boeing's prices, would have been too small to influence the outcome of campaigns that the EC cites as evidence of displacement/impedance and significant lost sales.⁵¹³ Nor has the EC presented the Panel with evidence and argumentation demonstrating that a 0.2 percent reduction in Boeing's prices would cause Airbus to experience price suppression that is "significant" within the meaning of Article 6.3(c).⁵¹⁴

378. In sum, whether the Washington tax measures are assessed in terms of *ad valorem* subsidization rate or otherwise, there is no basis to find that the measures caused adverse effects.

230. *At footnote 72 of its SWS, the European Communities explains why it considers that the United States is incorrect when it states that the total value of all of the Washington State tax incentives is \$3.2 billion from FY 2004 through FY 2023, as opposed to \$3.6 billion from FY 2004 through FY 2024. How does the United States respond?*

379. As stated in response to Question 228, only revenue foregone through the end of 2007 should be included in the amount of the financial contribution. If the Panel were to include future revenue foregone in the amount of the financial contribution, the United States agrees with the EC that the total value of the Washington State tax measures should be based on revenue foregone through 2024, rather than 2023. As set forth in response to Question 228, the United States accepts the EC's estimate for the total amount of the alleged financial contribution in 2024 under each of the tax measures in HB 2294.

(b) *State B&O Tax Reduction*

231. *The European Communities refers to certain statements contained in a letter from former Governor Locke (Exhibit EC-71) as evidence that the benefits of tax reductions to Boeing suppliers will "pass through" to Boeing. (EC SWS, para. 57) At para. 20 of its OS2, the European Communities refers to another, more recent Statement by former Governor*

⁵¹³ EC FWS, Annex E, para. 62; EC FWS, Annex F, para. 37.

⁵¹⁴ EC RPQ1, para. 503 ("Any price effects *larger than 1 percent*, including those established by the European Communities, therefore, also meet the 'significance' test.") (emphasis added).

Locke. How does the United States respond to these statements? Please identify the information upon which those statements were based.

380. Neither of the cited statements by Governor Locke establishes that the benefit of any alleged subsidy to aerospace component manufacturers passed through and benefited Boeing. Even if Governor Locke were in a position to evaluate the question of whether tax reductions in fact have or would pass through to Boeing in light of the economic realities of the markets and supplier relationships at issue, his statements do not even address such a question. The cited letter from Governor Locke does not show, or even purport to show, pass-through. Governor Locke’s description of the overall package as providing a “40% B&O Rate Reduction for the entire aircraft industry (including suppliers) hardly establishes the EC’s point. The EC focuses on the fact that this description is included as part of a list of “benefits {that} will accrue to the company,”⁵¹⁵ but this does not establish that the rate reduction for others besides Boeing could have reasonably been expected to pass through to Boeing. That is a question that relates to commercial activity and negotiation between a supplier and Boeing, not between the State and Boeing. Finally, the fact that the State would have referenced the full scope of the aerospace package is hardly surprising – the State would have had an interest in describing that package as comprehensively as possible because it sought to attract Boeing’s 787 production activity.

381. The statement quoted in a recent press article also does not establish pass-through. Former Governor Locke did not address the question of whether the tax adjustment ultimately accrued to Boeing, as opposed to the suppliers that received it. In any event, as demonstrated by the economists’ opinions relied on by the EC and the United States regarding the pass-through question, this is a complex economic and factual question that Governor Locke would have been in no position to evaluate.

382. Finally, the press article cited by the EC describes the State’s desire to attract aerospace operations to Washington State, including operations of suppliers.⁵¹⁶ Noting Governor Locke’s statement regarding the supposed benefits to suppliers of the new tax measures, the article states “{t}he first big disappointment on that score came in 2004. Major Boeing partners Vought of Texas and Alenia of Italy chose South Carolina for two new plants, where they build and assemble nearly two-thirds of the new jet’s fuselage.”⁵¹⁷ Thus, as noted elsewhere, the projections regarding the impact of HB 2294 on suppliers were greatly overstated in any event.

383. The core issue for the Panel to decide, however, is whether the EC has established, based on sound economic reasoning, that the benefit of the Washington State tax measures pass through and benefit Boeing. The EC points to no evidence that addresses this question. And, as

⁵¹⁵ EC SWS, para. 57, citing Project Olympus Restatement of Commitments (Exhibit EC-71).

⁵¹⁶ See http://seattletimes.nwsourc.com/cgi-bin/PrintStory.pl?document_id=2004077616&zsection_id=2003750727&slug=787jobs17&date=20071217 (last visited April 11, 2008).

⁵¹⁷ See http://seattletimes.nwsourc.com/cgi-bin/PrintStory.pl?document_id=2004077616&zsection_id=2003750727&slug=787jobs17&date=20071217 (last visited April 11, 2008).

the United States has pointed out,⁵¹⁸ the economic analysis that the EC does rely on is not based on facts, and the assumptions it makes are not grounded in the reality of the markets at issue. The Panel should therefore reject the EC's pass-through claim.

232. *Please explain why Washington State decided that the tax incentives in HB 2294 would expire in 2024, and why the City of Everett decided that the local B&O tax rate reduction for manufacturers would expire after 2023.*

384. In drafting and enacting legislation, Washington State decided on the 2024 expiration date for the tax measures in HB 2294 because this would allow sufficient time to achieve the tax revenue, employment, and economic activity objectives pursued. Similar reasons underlie the City of Everett's decision for the B&O tax reduction to expire after 2023.

233. *At paras. 62 and 71 of its SWS, the European Communities states that the United States concedes that the HB 2294 B&O tax rate reductions and the HB 2294 tax credits are de jure specific. At para. 94 of its SWS, the European Communities states that the United States implicitly concedes that the City's B&O tax rate reduction is de facto specific. At para. 104 of its SWS, the European Communities suggests that the United States EC argument that the provision of coordinators is de jure specific. How does the United States respond?*

385. **B&O Tax Adjustment.** The B&O tax adjustments are not *de jure* or *de facto* specific and, therefore, are not actionable subsidies under the SCM Agreement. With respect to *de jure* specificity, as the United States has set forth in previous submissions, the EC's contention that the B&O tax adjustment is specific ignores the broader context in which the adjustment is provided. Washington State has established a taxation regime that taxes different business activities at different rates. Moreover, Washington State has created new categories of business activities over time and has adjusted the tax rates for different business activities, recognizing that the B&O taxation system disadvantages certain types of business activities. The tax rate for aerospace manufacturing is codified in Washington State's tax code⁵¹⁹ along with the B&O tax rate for all other business activities that are subject to the B&O tax in the State. Thus, when viewed in the context of the Washington State tax code as a whole and the State's efforts to alleviate certain disadvantages of the B&O tax structure, the tax rate for aerospace is not *de jure* specific within the meaning of Article 2.1(a) of the SCM Agreement. As the B&O tax adjustment is also not *de facto* specific, the B&O tax adjustment is not an actionable subsidy.⁵²⁰

386. **B&O Tax Credits.** Contrary to the EC's contention in paragraph 94 of its SWS, the United States does not concede that the Washington State B&O tax credits for preproduction

⁵¹⁸ US FWS, paras. 467-481.

⁵¹⁹ RCW 82.04.260(11) (Exhibit US -181).

⁵²⁰ The U.S. argument that the B&O tax adjustment is not *de facto* specific is set forth in paragraph 483 of the US FWS.

development expenditures or property taxes are *de jure* specific.⁵²¹ The State provides these credits to a variety of other business activities that span a wide range of sectors.⁵²² Similar to the B&O tax adjustment, the B&O tax credit for aerospace is part of the State’s overall tax structure that includes B&O tax credits for numerous sectors. Accordingly, in the context of the Washington State tax code as a whole, the B&O tax credits are not *de jure* specific under Article 2.1(a). As the B&O tax credits are also not *de facto* specific under Article 2.1(c),⁵²³ the B&O tax credits are not an actionable subsidy.

387. City of Everett B&O Tax Reduction. The primary argument of the United States with respect to the City of Everett B&O tax reduction is that it does not confer a subsidy.⁵²⁴

388. Project Coordinators. Finally, the provision of project coordinators is not *de jure* specific and contrary to the EC’s contention, the United States has not “ignore{d}” the EC’s argument that it is.⁵²⁵ As Article 3.1 of the MSA notes, the provision of project coordinators is contingent on the designation of a project as a “Project of Statewide Significance.” And, Washington State law, not the MSA, sets forth the criteria for designation as a Project of Statewide Significance. Thus, the MSA, on its own, does not provide for project coordinators; the coordinators are provided pursuant to the provision of Washington State law for Projects of Statewide Significance.

389. In order to qualify as a Project of Statewide Significance, a project must have high capital investment, full-time employment of over 100 people after completion of the project, and significant regional impact. To qualify, a project must also be located in a county that meets the rural threshold or otherwise requires economic assistance, or have a large regional impact.⁵²⁶ This provision of Washington State law applies regardless of the enterprises or industries involved in the project. Therefore, the provision of coordinators for a Project of Statewide Significance is not *de jure* specific under Article 2.1(a) of the SCM Agreement.

⁵²¹ As set forth previously by the United States, the B&O tax credit for computer software and hardware is a specific subsidy; however, the amount of the subsidy is only \$20 million. US RPQ1, para. 26.

⁵²² For example, Washington State provides a B&O tax credit when qualified businesses in rural areas create new employment positions. Businesses that provide certain job training programs may qualify for B&O tax credits. In addition, high technology businesses engaged in certain types of research and development, small businesses, businesses engaged in certain international service activities, and aluminum smelters may qualify for B&O tax credits. US FWS para. 495.

⁵²³ US FWS, para. 495.

⁵²⁴ US FWS, para. 514.

⁵²⁵ We understand the Panel to be asking the United States to respond to the EC’s statement at paragraph 104 of its SWS that “the United States seems to ignore the EC argument that the provision of coordinators is *de jure* specific within the meaning of Article 2.1(a) of the SCM Agreement.”

⁵²⁶ US FWS, para. 571, n. 759; RCW 43.157.030 (Exhibit US-238).

390. With respect to the *de facto* specificity inquiry, the EC argues that the fact that the State provides project coordinators pursuant to these criteria to numerous other projects is irrelevant to the *de facto* specificity inquiry. Specifically, the EC asserts that the “fact that the State may also provide coordination services for other projects selected according to what appear to be arbitrary and discretionary criteria does not demonstrate that the provision of coordinators for Project Olympus is not a specific subsidy.”⁵²⁷ The EC’s contention is erroneous. What the EC describes as “arbitrary and discretionary” criteria are in fact non-specific criteria under which a broad range of industries and enterprises have been provided project coordinators by the State. This is both directly relevant to the *de facto* specificity inquiry and also demonstrates that the provision of project coordinators by the State of Washington is not specific to the aerospace industry or to Boeing.

(c) *State B&O Tax Credits*

235. *Please comment on the European Communities’ explanation, set forth at para. 68 and footnotes 102 and 103 of its SWS, of how it arrived at its original and revised estimate of the amount of the alleged subsidy provided to Boeing’s LCA division resulting from the HB 2294 B&O tax credits for Preproduction Development, Computer Software and Hardware, and Property Taxes.*

391. With respect to the B&O tax credits, the United States accepts the EC’s revised estimate of the amount of the alleged subsidy provided to Boeing’s LCA division through 2007. Under the U.S. view, only revenue foregone through the end of 2007 should be considered a financial contribution and therefore counted in the amount of the subsidy. To the extent that the Panel includes future revenue foregone under these measures, the United States accepts the EC’s estimate of the total amount of the tax credits through 2024.

392. However, these amounts overstate the value of the financial contribution to Boeing, as the figures include credits provided to other entities. The United States accepts the EC’s use of Washington State’s estimate that 65 percent of the value of the B&O tax credit for preproduction development is provided to Boeing. This estimate is based on the State’s September 2003 presentation and represents the State’s estimate of the amount of the B&O tax credits that would be provided to Boeing over the 20-year period of the program. Similarly, the United States accepts the estimate from Washington State that 100 percent of the value of the B&O tax credit for computer software and hardware is provided to Boeing. Finally, the United States accepts the EC’s estimate that 100 percent of the B&O tax credits for property taxes is provided to Boeing.

236. *According to the European Communities, “the United States’ claim that companies other than Boeing have received a small share of these tax credits through the end of FY 2007 is an entirely unsubstantiated assertion. Exhibit US-195, to which the United States cites*

⁵²⁷ EC SWS, para. 106.

in support of its assertion, provides no source information nor any underlying documents to demonstrate that these B&O tax credits have been taken by entities other than Boeing." (EC SWS, para. 70) How does the United States respond?

393. The United States accepts the EC's estimate of the amount of B&O tax credits for preproduction development, property taxes, and computer software and hardware that were taken by Boeing.

(d) *Sales and Use Tax Exemptions for Computer Hardware, Peripherals, and Software*

237. *Please comment on the European Communities' explanation, set forth at para. 76 and footnote 119 of its SWS, of how it arrived at its estimate of the amount of the alleged subsidy provided to Boeing's LCA division resulting from the HB 2294 sales and use tax exemptions for computers.*

394. With respect to the total amount of revenue foregone by virtue of the sales and use tax exemption for computer hardware, peripherals, and software, only revenue foregone through the end of 2007 – \$11.5 million – should be counted as a financial contribution.⁵²⁸ To the extent that the Panel includes revenue foregone through 2024, the United States and the EC have put forward the same estimate regarding the total amount of the alleged subsidy.⁵²⁹ The United States accepts the EC's estimate that 80 percent of the total value of this tax exemption is provided to Boeing.

238. *The European Communities argues that "the United States' claim that companies other than Boeing have actually used these tax exemptions is entirely unsupported. Indeed, the United States does not even present any figures to demonstrate how much of these exemptions have allegedly been claimed by companies other than Boeing." (EC SWS, para. 78) How does the United States respond?*

395. The United States accepts the EC's estimate that 80 percent of the total value of this tax exemption is provided to Boeing.

(e) *Sales and Use Tax Exemptions for Construction and Equipment, Leasehold Excise Tax Exemptions, and Property Tax Exemptions*

239. *The United States argues that under three of the Washington State tax measures, the sales and use tax exemption for construction equipment, the leasehold excise tax exemption, and the property tax exemption, Boeing has not taken the exemption that the EC alleges constitutes a financial contribution, and Boeing has indicated that they do not*

⁵²⁸ US FWS, para. 499, n. 676, citing Washington State Department of Revenue Final HB 2294 Fiscal Note – 20 Year Spreadsheet (Exhibit US-184).

⁵²⁹ EC SWS, para. 76, n. 119; Washington State Department of Revenue Final HB 2294 Fiscal Note – 20-Year Spreadsheet (Exhibit US-184).

intend to take these exemptions in the future. (US FWS, 501-505, 506-508, and 509-511) At para. 81 of its SWS, the European Communities argues that the United States "has offered no evidence in support of its contention that Boeing is not utilizing or planning to utilize these tax breaks. There are no statements from Boeing officials or any other forms of documentary evidence from which to conclude that Boeing has not built or leased new buildings or facilities in connection with the 787, or that it will not do so in the future." How does the United States respond?

396. The MSA and the Memorandum of Agreement for Project Olympus (“MOA”) memorialize Boeing’s decision to site its 787 operations in existing Boeing facilities in Everett, Washington. The site selection choice means that Boeing does not qualify for the three referenced Washington State tax measures. This relevant “documentary evidence” was submitted by the EC in its FWS, at Exhibits EC-57 and EC-59. In addition, the United States previously submitted Exhibit US-184, which is a spreadsheet created by the Washington State Department of Revenue that estimates the cost to government from the incentives over a 20-year period. This document demonstrates that, as a result of Boeing’s site decision, the State recognized that there would be no revenue forgone under the three referenced measures.

397. The tax measures in HB 2294 became effective only once “the governor {of Washington State} and a manufacturer of commercial airplanes sign a memorandum of agreement regarding an affirmative final decision to site a significant commercial airplane final assembly facility in Washington state.”⁵³⁰ The required MOA, signed December 19, 2003, indicates that “Boeing wishes to site the Facilities within the State and in particular in the City of Everett, County of Snohomish, State of Washington, the property more particularly shown on Exhibit A to the Master Agreement, as defined below (the “Facilities Site”)” and “Boeing and the State desire that this MOA evidence Boeing’s final decision to site the Facilities at the Facilities Site and thus serve as the memorandum of agreement required by HB 2994.”⁵³¹ Exhibit A of the MSA indicates that the Facilities Site consists of “various building and parcels of land as hereinafter designated by Boeing located at the Snohomish County Airport (Paine Field) in the City of Everett, Snohomish County, Washington 98201, which are owned in fee simple estate by Boeing and located within the area depicted on “Attachment A” to this Exhibit A.⁵³² Attachment A, in turn, shows that the Facilities Site consists of Boeing’s existing Everett facilities.⁵³³

⁵³⁰ HB 2294 § 17 (Exhibit EC-54).

⁵³¹ Memorandum of Agreement for Project Olympus, December 19, 2003, p. 1 (Recitals F and G) (Exhibit EC-57).

⁵³² Exhibits to the Project Olympus Master Site Development and Location Agreement Between the Boeing Company and the State of Washington, County of Snohomish, City of Everett and Certain Other Governmental Units and Authorities of or in the State of Washington, December 19, 2003, at Exhibit A (Exhibit EC-59).

⁵³³ As the United States previously explained, Boeing considered a range of final assembly facility options during the 787 site selection process, including building new or leasing facilities in Moses Lake and in Everett. It

398. As a result of Boeing’s decision to utilize its existing Everett facilities, which it owns in fee simple, Boeing does not qualify for the sales and use tax exemption, leasehold excise tax exemption, and property tax exemption referenced above. Specifically:

- The sales and use tax exemption applies only to “charges made for labor and services rendered in respect to the constructing of new buildings by a manufacturer engaged in the manufacturing of superefficient airplanes, or by a port district, to be leased to a manufacturer engaged in the manufacturing of superefficient airplanes, to sales of tangible personal property that will be incorporated as an ingredient or component of such buildings during the course of the constructing, or to labor and services rendered in respect to installing, during the course of constructing, building fixtures...”.⁵³⁴ As a result of Boeing’s decision to use its own existing facilities, Boeing does not qualify for this tax exemption.
- The leasehold excise tax exemption applies only to “leasehold interests in port district facilities {newly built by a port district to be leased to a manufacturer of superefficient airplanes} and used by a manufacturer engaged in the manufacturing of superefficient airplanes.”⁵³⁵ As a result of Boeing’s decision to use its own existing facilities and not lease from a port district, Boeing does not qualify for this tax exemption.
- The property tax exemption applies only to “buildings, machinery, equipment and other personal property of a lessee of a port district {of facilities newly built by the port district to be leased to a superefficient airplane manufacture}”.⁵³⁶ As a result of Boeing’s decision to use its own existing facilities and not lease from a port district, Boeing does not qualify for this tax exemption.

399. Precisely because of Boeing’s decision to use its existing Everett facilities, the State of Washington Department of Revenue’s 20-year spreadsheet estimating the cost to government of the HB 2294 tax measures includes “zeroes” with respect to these three measures.⁵³⁷

400. In sum, the EC’s contention that the United States has not provided sufficient “documentary evidence” with regard to these three tax exemptions is without merit. The

ultimately chose to use its own existing Everett facilities to manufacture the 787, as reflected in the MOA. USFWS, at para. 504 and Exhibit US-184 (“Moses Lake was not chosen as the site for manufacturing of super-efficient airplanes.”) See also <http://www.boeing.com/commercial/facilities/> (Boeing’s “Everett factory accommodates production lines for the 747, 767, 777 and 787 airplanes”).

⁵³⁴ HB 2294 § 11 (Exhibit EC-54); RCW 82.08.980 (Exhibit US-202) (emphasis added).

⁵³⁵ HB 2294 § 13 (Exhibit EC-54); RCW 82.29A.137 (Exhibit US-204).

⁵³⁶ HB 2294 § 14 (Exhibit EC-54); RCW 84.46.655 (Exhibit US-105).

⁵³⁷ Washington State Department of Revenue, H.B. 2294 Fiscal Note 20-year Spreadsheet, p. 2 (Exhibit US-184).

evidence on the record clearly supports the fact that Boeing does not qualify for the three HB 2294 tax exemptions, and the EC, which has the burden of proof, has failed to demonstrate otherwise.

(f) *Coordinators*

240. *At para. 98 of its SWS, the European Communities states that United States "does not dispute the existence of a financial contribution" in connection with the provision of coordinators to Boeing by the State of Washington. Is that correct?*

401. As the United States set forth in its FWS, the provision of the two dedicated project coordinators to facilitate the establishment of Boeing's 787 facility does constitute a financial contribution under the SCM Agreement.⁵³⁸ However, Boeing receives no benefit from the provision of project coordinators because the coordinators are simply doing their job and would be available to Boeing even if the MSA did not exist, so long as Boeing undertook a Project of Statewide Significance.⁵³⁹ Finally, as set forth in previous submissions and in response to Question 234 above, the provision of project coordinators is not specific under Article 2 of the SCM Agreement and thus is not an actionable subsidy.⁵⁴⁰

241. *The European Communities argues that the United States has offered "absolutely no documentary evidence to support its contentions that the State of Washington provided only two dedicated coordinators to Boeing in FY 2004 and FY 2005 at a total salary of \$213,600, that these dedicated coordinators were terminated on 30 June 2005, and that other coordinators that assisted Boeing were operating in the ordinary course of their employment." (EC SWS, para. 98) How does the United States respond? How does the United States respond to the EC argument, at para. 100 of its SWS, that the proper value of the financial contribution to Boeing from the provision of the dedicated coordinators includes not only salaries, but also benefits, overhead, and other such costs?*

402. The United States agrees with the EC that the value of the financial contribution associated with the provision of two dedicated project coordinators should include salaries, benefits, overhead, and other costs related thereto. Accordingly, Washington State expended a total of \$538,551 on these expenses in relation to the provision of these project coordinators, as set forth in Exhibit US-1295.⁵⁴¹

⁵³⁸ US FWS, para. 568.

⁵³⁹ US FWS, para. 570.

⁵⁴⁰ US FWS, para. 571.

⁵⁴¹ Letter from John LaRocque, Assistant Director, Financial Services Division of the Washington State Department of Community, Trade and Economic Development to Robert Hamilton, Governor's Advisor for Trade Policy (April 10, 2008) (Exhibit US-1295).

403. Because these figures represent the actual costs to Washington State of the project coordinators, the United States submits that the Panel should accept these figures rather than the EC's projection.⁵⁴²

(g) *Workforce Development Program*

243. *The European Communities maintains that "the financial contribution in connection with the workforce development program is \$14 million from FY 2004 through FY 2007 as the European Communities originally submitted, not just \$1 million as the United States claims." (EC SWS, para. 109, footnote omitted) How does the United States respond?*

404. The financial contribution in connection with the workforce development program is \$1 million from FY 2004 through FY 2007, not \$14 million as the EC claims. As the United States set forth in its FWS, the State of Washington provided only \$1 million for the workforce development program.⁵⁴³

(h) *Cost of Legal Proceedings*

244. *According to the European Communities, Article 11.3 of the Master Site Agreement constitutes a "commitment to pay fees, costs, and expenses in connection with potential litigation is a potential direct transfer of funds within the meaning of Article 1.1(a)(1)(i)". Does Article 11.3 of the Master Site Agreement mandate a "potential direct transfer of funds" to Boeing? If not, would that preclude the Panel from finding that Article 11.3 constitutes a "potential direct transfer of funds" for the purpose of Article 1.1(a)(1)(i) of the SCM Agreement?*

405. Article 11.3 of the MSA does not constitute a potential direct transfer of funds under Article 1.1(a)(1)(i). As the United States has set forth in previous submissions, Article 11.3 provides that in the event of litigation challenging provisions of the MSA, the State will control the defense of such litigation.⁵⁴⁴ To the extent that Boeing seeks to intervene in such litigation, it may exercise its right to do so. However, Article 11.3 does not require the State to fund Boeing's litigation costs nor does the State intend to do so. In fact, the intent of Article 11.3 was to protect the State's self-interest in controlling the defense in any litigation challenging the MSA. Accordingly, the provision does not mandate a potential direct transfer of funds.

406. In the U.S. view, in the absence of such a mandate, there is no basis for the Panel to find that Article 11.3 of the MSA constitutes a potential direct transfer of funds under the SCM

⁵⁴² The United States notes that Washington State's projection is also based on the costs associated with two project coordinators. EC SWS, para. 98, citing Washington State September 2003 Presentation, at Appendices (Exhibit EC-65).

⁵⁴³ US FWS, para. 583.

⁵⁴⁴ US FWS, paras. 573-575.

Agreement. As stated in response to Question 124 above, a potential direct transfer of funds falls within the meaning of Article 1.1(a)(1)(i) if a direct transfer of funds is assured in the event of certain defined circumstances. Here, Article 11.3 does not assure Boeing a direct transfer of funds under any circumstances (or even contemplate such a transfer). Thus, there is no potential direct transfer of funds within the meaning of the SCM Agreement.

(i) *Road Improvements, Rail-Barge Transfer Facility, and South Terminal Facility*

245. *At para. 101 of its RPQ1, the United States reiterates its position that the "determinative question" is "whether there are limitations on availability of those roads". The Panel notes that the United States has nonetheless made a number of assertions that would appear to relate to purpose, historical background, and beneficiaries of the improvements at issue. For instance, at para. 102 of its RPQ1, the United States goes on to advance assertions as to why the Port of Everett constructed the facility ("to allow direct off-loading of oversized containers from barges onto rail cars"; "[t]he construction of the rail barge transfer facility was designed to ease this traffic congestion"), the historical background of the improvements ("Prior to the construction of the facility, when oversized containers delivered to the Port of Everett were transferred to rail cars, the authorities had to shut down the main rail line between the Port of Everett's Marine Terminal and the Japanese Gulch spur for between one and two hours"), and who "benefits" from the facility ("all users of the rail corridor, not just Boeing"). Do any of these assertions relate to the question of "whether there are limitations on availability of those roads"?*

407. The status of infrastructure as "general" or otherwise does not depend on the motive or objective of the government creating the infrastructure. Background and beneficiaries of infrastructure improvements are not in themselves determinative of the question of whether infrastructure is general. However, whether infrastructure is general can only be properly assessed in view of the totality of the facts. Elements of historical and other background can be among the factual circumstances relevant to a demonstration that the infrastructure at issue is or is not "general" in the sense of availability to all users or inhabitants. Indeed, each of the facts referred to by the Panel in its question does, in fact, relate to the question of whether there are limitations on the availability of the infrastructure challenged by the EC. Moreover, the EC's argument that the infrastructure measures at issue in this dispute are non-general is based in large part on erroneous assertions about the State's motive and objective e.g., that the infrastructure improvements were designed just to assist Boeing. The United States has provided facts regarding the historical background of these infrastructure measures in order to rebut the EC's mischaracterizations.

408. First, the fact that the Port of Everett constructed the facility "to allow direct off-loading of oversized containers from barges onto rail cars" and that "{t}he construction of the rail barge transfer facility was designed to ease this traffic congestion" are relevant background. These factors demonstrate that the construction of the rail barge transfer facility cannot be seen as an

infrastructure measure in its own right but must be assessed as an improvement to the existing rail infrastructure to which it was added. Indeed, the fact that “all users of the rail corridor, not just Boeing” benefit from the improvement should be seen in this same context. In addition to the general availability of the rail barge transfer facility to any user of the port and the railway system that wishes to have access to it, it is also relevant that the rail barge transfer facility – as an improvement to the general railroad system to which it is added – improves accessibility and use of the railway system as a whole. This improvement is available not just to those companies or other users that may wish to use the facility, but also to all other users of the railway system for which congestion and delays resulting from the existing rail barge transfer systems are removed or decreased.

409. The historical background of the improvements should be seen in the same light. The fact that “{p}rior to the construction of the facility, when oversized containers delivered to the Port of Everett were transferred to rail cars, the authorities had to shut down the main rail line between the Port of Everett’s Marine Terminal and the Japanese Gulch spur for between one and two hours” provides further evidence of the link between the rail barge transfer facility and the main railway system of which it is a part.

410. Thus, each of the factors referred to by the Panel is among the factual circumstances relevant in establishing whether the infrastructure provided is general.

246. *Please respond to each factual assertion set out by the European Communities at para. 139 of its Comments on US RPQ1.*

411. In paragraph 139 of its Comments on US RPQ1, the EC sets out the basis for its claim that the road improvements to the I-5 and SR-527, the rail-barge transfer facility, and the improvements of the South Terminal facility are excluded from the category of “general infrastructure” in Article 1.1(a)(1)(iii). While most of the EC’s arguments have already been addressed in previous U.S. submissions, we set out below the core facts that rebut each of the EC’s allegations. In this regard, the United States reiterates that each of the infrastructure measures challenged by the EC is universally available to all users or inhabitants of the relevant area. Accordingly, all of the challenged infrastructure measures are excluded from the definition of a subsidy under the SCM Agreement.

412. **I-5 and SR-527 Road Improvements.** First, the EC asserts that “Boeing has a *legal right* to define the specifications of the publicly-financed road improvements, including those related to the re-routing of private roads.”⁵⁴⁵ The provision cited by the EC to ostensibly support this assertion nowhere states that Boeing has such a legal right. The EC continues to misunderstand the MSA and relevant Washington State law. The MSA provides that these road improvements were to be “designed and constructed in accordance with drawings and specifications *in consultation* with Boeing” and that such improvements must meet the standards of the American Association of State Highway Transportation Officials and certain State

⁵⁴⁵ EC Comments on US RPQ1, para. 139 (emphasis original).

standards.⁵⁴⁶ This consultation does not in any way limit the general availability of the roads for all users.

413. With respect to the re-routing of private roads, as the United States has previously stated, the Washington State Constitution forbids any “gift” of public funds, regardless of their source. In order to pass Constitutional muster, the road improvements must serve a public purpose; expenditures that benefit one company are prohibited.⁵⁴⁷

414. The EC next contends that “Boeing was provided with a ‘performance guarantee’ that the publicly-financed road improvements would at all times satisfy its current and *future* needs.”⁵⁴⁸ As the United States has set forth previously, the road improvements to I-5 and SR-527 were undertaken by the State of Washington as part of the statewide Nickel Package. The Nickel Package identified over 150 infrastructure projects throughout the State. Thus, the plans for the improvements to I-5 and SR-527 were in process before the State and Boeing entered into the MSA.⁵⁴⁹ Furthermore, the EC ignores the fact that companies will frequently seek to ensure that certain infrastructure necessary for their operations is in place before undertaking a significant investment. The mere fact that a government promises to build certain infrastructure does not make such infrastructure “non-general” as long as it is not indicative of or does not result in any limitations on the availability of such infrastructure.

415. The EC also states that the “Boeing-specified road improvements were accorded the ‘highest priority’ and were to be conducted within a specified time-frame counted from the moment when Boeing ‘authorizes the project’.”⁵⁵⁰ The provisions of the MSA cited by the EC to support this assertion were designed to affirm the State’s intention to make the improvements that were already included in the Nickel Package – which was approved by the Washington State Legislature in May 2003 – and to highlight the steps the State had already undertaken in this regard. Indeed, Exhibit C-9 of the MSA also indicates that certain funds had already been appropriated for these projects. In any event, the timing of an infrastructure measure alone is not determinative of non-generality where it is not combined with other factors that limit the availability of the infrastructure.

416. Finally, the EC reiterates its erroneous assertion that “each of these promises was guaranteed to Boeing and reinforced by the Project Olympus MSA’s ‘Make Whole’ provision.”⁵⁵¹ Contrary to the EC’s repeated attempts to invoke Article 10.4.1 of the MSA, this provision does not have the legal effect that the EC claims. The United States refers the Panel to

⁵⁴⁶ Master Site Agreement, Article 6.11.1 (Exhibit EC-58).

⁵⁴⁷ See US FWS, para. 540.

⁵⁴⁸ EC Comments on US RPQ1, para. 139 (emphasis original).

⁵⁴⁹ US FWS, paras. 524-28; US RPQ1, para. 106.

⁵⁵⁰ EC Comments on US RPQ1, para. 139.

⁵⁵¹ EC Comments on US RPQ1, para. 139.

its response to Question 124 above and to its previous submissions.⁵⁵² The United States also notes that – even if such an improvement measures were “guaranteed” to Boeing, this would not have resulted in limitations on the availability of the infrastructure and thus would not make such infrastructure measures “non-general” for purposes of Article 1.1(a)(1)(iii).

417. **Rail Barge Transfer Facility.** With regard to the rail-barge transfer facility, the EC argues again that “Boeing has a legal right to define the specifications”; that “the works were to be completed within a specified time-frame”; and that “each of these promises was guaranteed to Boeing and reinforced by the Project Olympus MSA’s ‘Make Whole’ provision”. The United States refers to paragraphs 411-15 above for its response to these EC arguments.

418. The EC also asserts that Boeing “has highly preferential access to the facility” and that “Boeing itself pays part of the cost of the project” and that these factors are relevant for the question of whether the infrastructure is general. However, the agreement between the Port and Boeing specifically foresees use of the facility by third parties.⁵⁵³ Moreover, the United States has already explained that the government’s ability to obtain contributions from private parties for the construction of certain infrastructure is not in itself relevant to the consideration of whether such infrastructure is “general”, in the absence of other factors that limit access to such infrastructure to certain users.⁵⁵⁴ The fact that infrastructure is privately co-financed in no way changes the general availability of such infrastructure as a *de jure* or *de facto* matter and, thus, its status as “general” infrastructure.

419. **South Terminal Facility.** The EC’s arguments concerning the South Terminal are identical to those discussed above with respect to the road improvements and rail barge transfer facility. The United States therefore refers the Panel to paragraphs 411-17 above. With regard to the EC’s argument that Boeing’s right to preferential access to the Terminal would designate the Facility as infrastructure that is not general, the preferential access negotiated by a particular user does not necessarily limit the universal availability of the infrastructure. Boeing’s agreement with the Port of Everett sets forth a number of rights and obligations for both Boeing and the Port, including an obligation for Boeing to pay certain agreed fees for use of the facilities.⁵⁵⁵ There is nothing in the agreement that prevents other users or potential users from negotiating similar access to the facilities and there are, therefore, no *de facto* or *de jure* limitations on the availability of the facilities – which, in any event, are not being used by Boeing.

⁵⁵² See also US FWS, paras. 586-588; US RPQ1, paras. 114-121.

⁵⁵³ See Amended and Restated Facilities and Services Agreement, Art. 3.2 (Exhibit US-224).

⁵⁵⁴ US RPQ1, para. 110. This could of course be different if the private co-financing agreement results in an agreement of exclusive use. That, however, is not the case with regard to any of the measures at issue in this dispute.

⁵⁵⁵ US FWS, para. 552; Port of Everett 2005 Annual Report, p. 5 (Exhibit US-226) (illustrating that in the years 2003, 2004, and 2005, the Port operated on a profitable basis).

247. *At para. 232 of its FWS, the European Communities estimates that the total benefits to Boeing's LCA division from the road improvements are valued at \$291.2 million from 2004 through 2008. According to the European Communities, of this amount, the benefits conferred from 2004 through 2006 total approximately \$186.3 million, while the benefits required to be conferred from 2007 through 2008 total an estimated \$104.9 million. Is the Panel correct in its understanding that the United States is accepting those figures for the purposes of this dispute?*

420. The United States does not accept the figures set forth by the EC regarding the benefit to Boeing resulting from the I-5 and SR-527 road improvements.⁵⁵⁶ First, as the United States has set forth in detail, the road improvements are general infrastructure and thus do not constitute a financial contribution under the SCM Agreement. Even if the Panel were to find that the road improvements confer a financial contribution on Boeing, the EC grossly overstates the benefit to Boeing.

421. The EC asserts that the entire cost of the road improvements should be counted as a benefit toward Boeing. The EC's reasoning seems to be that "Boeing is not required to pay anything in return for these road improvements, which Boeing will use to facilitate production of its LCA."⁵⁵⁷ This reasoning is deeply flawed.

422. There is no basis for the claim that Boeing receives all of the benefit of the improvements to these two public roads. Boeing and its employees account for only a portion of the traffic on I-5 and SR-527, and the road improvements benefit the entire community using the roads, which includes countless businesses, tourists, and citizens of the United States, Canada, and Mexico.

423. Given this broad use of the roads and the fact that they were constructed as part of a state-wide transportation improvement package, there is also no basis for an analysis of the amount of benefits based on the entire cost of construction of these roads to Washington State. Of course, taking the cost of infrastructure or facilities created as a proxy for the total amount of the benefit would be a valid way of calculating the benefit conferred if such infrastructure or facilities were developed exclusively for a particular user and were unavailable – either *de jure* or *de facto* – for broader use. That, however, is decidedly not the case here. Under these circumstances, the United States sees no reason for accepting the figures presented by the EC as a reasonable estimate of any alleged benefit to Boeing.

(j) *747 LCF Landing Fee Waivers*

250. *At para. 7 of its Comments on EC RPQ1, the United States asserts that with regard to the 747 LCF, the impact of the alleged subsidies would be no different than any other Boeing*

⁵⁵⁶ The United States does not dispute that the cost to Washington State of the I-5 and SR-527 road improvements was \$291.2 million.

⁵⁵⁷ EC FWS, para. 232.

aircraft "and is already captured in the total amount of subsidy alleged by the EC". How is the impact of this alleged subsidy already captured in the total amount of subsidy alleged by the EC?

424. It is important to clarify that in the U.S. statement quoted by the Panel in Question 250, the United States was not referring to the landing fee waivers for the 747 LCF, as the title of section (j) of these questions indicates. Instead, the United States was referring to the EC's separate subsidy claim based on the provision of the tax treatment in HB 2294 to the 747 LCF. Because the tax treatment in HB 2294 is provided to Boeing's operations as a whole, the application of the tax treatment in HB 2294 to the 747 LCF is already included in the EC's calculation of the value of all the tax measures in HB 2294. Accordingly, the amount of the subsidy alleged by the EC includes the impact of the tax treatment on the 747 LCF.

J. STATE OF KANSAS AND MUNICIPALITIES THEREIN

1. Industrial Revenue Bonds

252. *With respect to the long-term supply agreements between Boeing and Spirit, the European Communities submits that "it is not surprising that there is nothing in the agreement provided by the United States that "demonstrates that the anticipated future value of IRBs to Spirit was captured by Boeing" because the United States has failed to provide complete copies of the agreements, has failed to provide a full set of the agreements, and has failed to provide any information regarding the negotiations that led up to the agreed prices for the supplies." (EC Comments on US RPQ1, para. 159) How does the United States respond?*

425. It is the EC's burden to establish that any benefits of IRBs issued to Spirit pass-through and benefit an independent and unrelated company, Boeing. The EC has failed to satisfy its burden, and as discussed in prior submissions and in response to Panel Question 255, all available evidence and economic theory contradict the EC's claim. The EC's response is to repeatedly assert that the United States has failed to provide documents.

426. After the United States challenged the EC's lack of evidence of pass-through, as well as the flaws in its economist's report, the EC complained that it did not have access to the supply contracts between Spirit and Boeing.⁵⁵⁸ The United States then provided these documents (redacted to omit very sensitive business information – Spirit is a supplier to both Boeing and Airbus), pointing out that those contracts were readily available to the EC from the website of the U.S. Securities and Exchange Commission.⁵⁵⁹ There is nothing in these agreements that

⁵⁵⁸ EC OS1, para. 35.

⁵⁵⁹ Special Business Provisions Between The Boeing Company and Spirit Aerosystems, Incorporated; General Terms Agreement Between The Boeing Company and Spirit Aerosystems, Incorporated (Exhibit US-1213).

demonstrates that the anticipated future value of IRBs to Spirit was captured by Boeing, as alleged by the EC.

427. In its third attempt to establish pass-through, the EC asserts that the unredacted versions of these contracts, or “information” about the negotiations, might somehow show pass-through. However, the EC presents no basis to believe that such unredacted documents or information would demonstrate pass-through, and the United States is under no obligation to participate in an EC fishing expedition.

428. The EC has presented no reason to believe that any other documents exist to demonstrate pass-through, and indeed none exist. It instead can rest only on a one-page analysis by Wachtel, which, for reasons the United States has explained in prior submissions and in response to Panel Question 255, does not establish pass-through. The EC’s invitation to the Panel to assume pass-through of future IRB benefits that all available evidence suggests will not even be sought by Spirit⁵⁶⁰ should be rejected.

253. *At paras. 637ff of its FWS, the United States argues that the European Communities “significantly overstates the value of the abatements”. The European Communities responds to the United States’ arguments at paras. 224-231 of its SWS, and concludes that, “based on the best information publicly available, the total financial contributions from the City of Wichita IRBs issued on behalf of Boeing or Spirit is at least \$784 million from 1989 through 2019”. How does the United States respond?*

429. As the United States has already demonstrated, the IRBs issued by the City of Wichita are not actionable subsidies. Nonetheless, the United States reiterates that the EC has significantly inflated the value of tax abatements to Boeing and Spirit and has based its calculations on assumptions, rather than facts, about future “benefits.”

430. First, the EC erroneously claims that all of the property associated with the IRBs is for large civil aircraft operations. The IRB property lists show property that “The Boeing Company” intended to acquire with IRB proceeds and that was necessary for the manufacture, modification, maintenance, and storage of aircraft and components – which includes both civil and military aircraft.⁵⁶¹ Indeed, the evidence the EC has placed on the record – specifically, the lease agreements between Boeing and the City of Wichita – demonstrates that some of the IRB

⁵⁶⁰ See U.S. Response to Panel Question 253 (noting that contrary to the EC’s projections, Spirit did not apply for or receive IRBs in 2007, presumably because of recent changes in Kansas tax law that make IRBs much less attractive).

⁵⁶¹ See Exhibit A to the Boeing IRB Lease Agreements from 1994 – 2005 (“Boeing IRB Project Property, 1994-2005”) (Exhibit EC-187); see also City Council Proceedings, Minutes of the Wichita City Council, Journal 190, November 6, 2007, at 278, available at <http://www.wichita.gov/NR/rdonlyres/0D5368F8-F39C-463B-8470-E590A216B770/0/11062007Minutes.pdf> (noting that “{a}cquisition of advanced technologies and the improvement of facilities are required for Boeing Wichita to compete for *military* engineering and modification work. . .”) (emphasis added).

proceeds were to be used for property connected with military aircraft operations and others for property connected with LCA operations.⁵⁶² Because the EC has failed to take this into account in calculating the value of the IRBs, its attribution of any “benefit” entirely to Boeing’s LCA is without merit.

431. Second, all evidence suggests that the EC’s projected quantification is vastly overstated and unreliable. This is clear from a review of IRB usage since this dispute began. The EC “estimated” that in 2007, Boeing would apply for and receive \$301.5 million in IRBs for its LCA operations.⁵⁶³ The reality is that Boeing applied for and received only \$12 million in IRBs in 2007 in connection with its military aircraft facility⁵⁶⁴ – less than 4 percent of the EC’s number and significantly lower than in prior years. The EC also “estimated” that Spirit would apply for and receive \$222.7 million in IRBs in 2007.⁵⁶⁵ In fact, Spirit did not apply for or receive any IRBs in 2007.⁵⁶⁶ The enormous discrepancies between the EC’s “estimates” of tax savings in 2007 and the amounts Boeing and Spirit actually applied for and received demonstrates both that the EC’s projections are completely unreliable and that the EC’s argument that it can assume and quantify future usage of IRBs is not credible. The EC’s number fails to take into account important considerations that impact whether companies such as Boeing and Spirit will opt to apply for IRBs – including the 2006 change in Kansas tax law that makes IRBs significantly less useful⁵⁶⁷ and Boeing’s downsized operations in Kansas.

⁵⁶² See e.g. Lease Agreement between the City of Wichita, Kansas, and the Boeing Company, December 1, 2004, at Section 7.02 (Exhibit EC-180) (providing that the Issuer, Trustee, and their duly authorized agents shall have the right to inspect the IRB property, as well as to examine the books and records of the Lessee “subject to security requirements of the United States Government;” further providing that “no person shall be entitled to make copies or extracts of or reveal to any person any national security, trade secret, confidential or other information which has not otherwise been made public and which, if disclosed, might put Lessee in violation of law or at a competitive disadvantage.”). The references within the Lease Agreement to the “security requirements of the United States” and to “violation of law” clearly refer to the U.S. Government’s ITAR requirements applicable to defense articles and associated technical data (since Boeing could not be put in violation of law for disclosing its own technical data). These kinds of provisions would not have been included if the property in question were only civil in nature, as asserted by the EC.

⁵⁶³ Estimates of Tax Benefits from Wichita IRBs, p. 2 (Exhibit EC-23)

⁵⁶⁴ City Council Proceedings, Minutes of the Wichita City Council, Journal 190, November 6, 2007, p. 278, available at <http://www.wichita.gov/NR/rdonlyres/0D5368F8-F39C-463B-8470-E590A216B770/0/11062007Minutes.pdf>; see also City of Wichita Letter of Intent for Mid-Western IRBs, May 25, 2005, p. 1 (Exhibit EC-172).

⁵⁶⁵ City Council Proceedings, Minutes of the Wichita City Council, Journal 190, November 6, 2007, p. 278, available at <http://www.wichita.gov/NR/rdonlyres/0D5368F8-F39C-463B-8470-E590A216B770/0/11062007Minutes.pdf>; see also City of Wichita Letter of Intent for Mid-Western IRBs, May 25, 2005, p. 1 (Exhibit EC-172).

⁵⁶⁶ See e.g. Minutes of the Wichita City Council for 2007, available for searching at <http://www.wichita.gov/Government/MinutesAndAgendas/CityCouncil/MinutesArchive/2007Minutes.htm>. The 2007 minutes demonstrated that Spirit never applied for or received IRBs in 2007.

⁵⁶⁷ US FWS, paras. 641, 644.

432. Third, the EC seeks to treat as a financial contribution revenue that potentially may not be collected in the future. The United States has already demonstrated that this does not meet the definition of a financial contribution within the meaning of Article 1.1(a)(1)(ii).

433. In sum, the EC has grossly inflated the value of the abatements to Boeing's LCA business by including speculative future IRB issuances (despite evidence that Boeing is no longer applying for IRBs to finance LCA operations), past IRB issuances that pertained to military aircraft operations in Kansas, and past and speculative future IRB issuances to an independent and unrelated company, Spirit.

254. *Does the United States accept that "the property and sales tax breaks associated with IRBs provide a benefit within the meaning of Article 1.1(b) of the SCM Agreement"? (EC SWS, para. 232)*

434. While the United States accepts that the tax abatements associated with IRBs provide a benefit within the meaning of Article 1.1(b) of the SCM Agreement, the EC grossly overstates the amount of the benefit associated with the tax abatements.⁵⁶⁸

435. Furthermore, as the United States has set forth in detail, the IRBs are not specific under Article 2 of the SCM Agreement and thus do not constitute an actionable subsidy to Boeing.⁵⁶⁹

255. *At para. 234 of its SWS, the European Communities states that the United States' offers no citations or reasoned economic analysis in support of its critique of Professor Wachtel's analysis regarding asset pricing. What is the basis of the United States' critique of Professor Wachtel's analysis regarding asset pricing?*

436. The EC's statement is based on selective quotation from the United States critique of Professor Wachtel's statements. In full, the United States has criticized Mr. Wachtel's conclusion of no pass-through by noting:

635. Finally, the EC's expert, Professor Wachtel, does not provide analysis to support the EC's claim of full pass-through, even if the future subsidies were certain (which they were not). In fact, he makes only a tentative statement in support of the EC's assertion of full pass-through. Professor Wachtel acknowledges that "it might well be difficult to estimate the future cash flows that stem from the capital asset", and concludes that the "discounted value of the expected subsidies will be *fully reflected* in the terms and conditions at the time of sale" and that "*there is every reason to believe* that Boeing realized the discounted value of the expected subsidies." {footnote omitted}

⁵⁶⁸ See U.S. Response to Panel Question 253.

⁵⁶⁹ US FWS, paras. 597-624; US SWS, paras. 145-148.

636. In a corporate transaction such as the one involving Spirit, the purchaser will determine what “value” the company has to him and what price he is willing to pay for the assets sold. As a private commercial company, Spirit would have aimed to maximize its profits. There is no basis to assume that the net present value of any anticipated future IRB benefits to Spirit went to Boeing. Indeed, if the net present value of all future cash flows in an acquisition were transferred directly to the seller, there would be no reason ever to invest in a company, because no value would ever accrue to the buyer.⁵⁷⁰

437. In other words, the United States criticizes Mr. Wachtel’s “analysis” because: (i) it does not actually provide analysis, just conclusions and assumptions; (ii) a review of the facts and the actual circumstances of the sale of the Wichita facilities to Onex shows that at the time of the sale and when the price was agreed, there was no certainty of future issuance of IRBs – as assumed by Mr. Wachtel; (iii) the EC’s approach is fundamentally irrelevant because it incorrectly assumes value equals price; and finally, (iv) Mr. Wachtel ignores actual evidence of elements that played a role in Onex’s valuation and the absence of any evidence that such elements included the value of any possible future IRBs

438. First, the United States has pointed out that Mr. Wachtel does not actually provide any analysis to support the EC’s claim of full pass-through – let alone the “reasoned economic analysis” that the EC now appears to demand from the United States. Mr. Wachtel’s entire discussion of the issue is approximately one page long. He cites two generic – and non-conclusive – sentences from general finance books, a study of housing prices, and a study of agricultural subsidies. He then jumps to the conclusion that these references to general theory and unrelated facts somehow demonstrate that “in negotiating the terms and conditions of the sales contract for the Boeing Wichita facilities, the expected value of the future state and municipal tax breaks and grants would have {also} been taken into account.” Mr. Wachtel tries to make his conclusion sound inevitable by saying that “{t}he discounted value of the expected subsidies will be fully reflected in the terms and conditions at the time of sale,” but then even the EC’s own economist retracts and notes only tentatively that “{i}n fact, there is *every reason to believe* that Boeing realized the discounted value of the expected subsidies pursuant to the terms and conditions of its sales contract with Onex.” Nowhere, however, does Mr. Wachtel actually examine that sales contract, the negotiating positions, and information available to Boeing as the seller and to Onex as the purchaser, or any of the other facts and circumstances of the sale in a way that would actually allow him to arrive at such a conclusion.

439. While “beliefs” clearly do not satisfy the EC’s burden of showing that any alleged future benefits would have fully passed through to the seller, Mr. Wachtel’s wholly unsubstantiated and entirely theoretical conclusion is particularly surprising because he himself acknowledges a few sentences earlier that “{o}f course, it might well be difficult to estimate the future cash flows that

⁵⁷⁰ US FWS, paras. 635-636.

stem from the capital asset.” It is certainly difficult, indeed impossible, to do so without any analysis of the facts and circumstances at issue in this case.

440. Second, a review of the facts and the actual circumstances of the sale of the Wichita facilities to Onex shows that, in fact, there is *no reason to assume full pass-through* and *every reason to believe that such pass-through did not occur*, even under the EC’s own theory. In particular, as the United States has set out before, the EC’s and Mr. Wachtel’s conclusion is based on the assumption that “{a}t the time of the transaction, the City of Wichita . . . {was} committed to providing Boeing Wichita and its successor entity, Spirit, continuing subsidies through issuance of . . . industrial revenue bonds (‘IRBs’) by the City of Wichita, and associated state and local tax breaks. These future bond-related benefits *would have been expected* by {Spirit} at the time of sale, *and therefore reflected* in its terms and conditions.”⁵⁷¹ In reality – as the United States has shown – Spirit had not even applied for IRBs, much less received authorization or approval for the bonds at the time that the Asset Purchase Agreement was signed in February 2005 between Boeing and Spirit and a price agreed for the sale.⁵⁷² The City of Wichita stated its intent to issue the IRBs for Spirit only in May 2005 and issued the IRBs only in December 2006 – ten months after the pricing of the sale was agreed.⁵⁷³ Moreover, even in May 2005, when the City of Wichita issued a Letter of Intent concerning the Spirit IRBs, the actual issuance of the IRBs was subject to numerous objective conditions and the City assumed no liability in the event that the bonds were not ultimately issued “for any reason”.⁵⁷⁴ Thus, a review of the actual facts and circumstances show that, in fact, even under Mr. Wachtel’s own theory of pass-through, there is no basis to conclude that any alleged future IRB benefits would have been reflected in the price paid to Boeing.

441. Third, Mr. Wachtel’s approach is irrelevant as it relates to *valuation*, and not to *price*. Mr. Wachtel ignores one of the most essential elements of how commercial asset sales actually work. Indeed, even if the EC and its economist, Mr. Wachtel were entirely correct in their analysis of the valuation of the Wichita assets, the value thus arrived at does not necessarily – and in fact most likely does not – represent the price Onex actually paid. Indeed, as the United States pointed out in its original response to Mr. Wachtel’s statements, this difference between the value of assets and their market price is in fact a fundamental element of investment markets and, in many cases, the difference between perceived value and price is precisely why investors will invest in a particular asset.⁵⁷⁵ Therefore, the EC’s theoretical description of how valuation

⁵⁷¹ Paul Wachtel, Economic Analysis, p. 4 (emphasis added) (Exhibit EC-16).

⁵⁷² US FWS, para. 629; Asset Purchase Agreement between the Boeing Company and Mid-Western Aircraft Systems, Inc. (Feb. 22, 2005) (Exhibit EC-166).

⁵⁷³ US FWS, para. 629; City of Wichita Letter of Intent dated May 25, 2005 (Exhibit EC-172); EC FWS, para. 296.

⁵⁷⁴ US FWS, para. 629; City of Wichita Letter of Intent dated May 25, 2005 (Exhibit EC-172), pp. 1, 2-4.

⁵⁷⁵ Many investors will invest in a company because they perceive the value of that company to be higher than the price they pay for the shares. Indeed, this is, for example, the essential basis of so-called “value investing.”

works does not answer the question whether any alleged future subsidy value was actually passed-through to Boeing in the *price*. To put it differently, any alleged pass-through could have only occurred through the price Onex actually paid, and not based on what Onex thought the company was worth (let alone what Boeing or Mr. Wachtel think the company was worth).⁵⁷⁶

442. In suggesting that it does, Mr. Wachtel completely ignores the real world commercial interplay between a seller's and a purchaser's objective to maximize value in a transaction, and the negotiating dynamics that characterize a real-world commercial sale such as that of Boeing's Wichita facility. Thus, for example, sellers may have incentives to sell that drive them to accept a price that may not fully reflect all potential future cash flows (for instance, they may need the income from the sale, or may be in the process of consolidating operations). The purchaser, in his turn, may have incentives to require a low price that does not reflect substantial amounts of future benefits (let alone future value that is as yet uncertain), for example because of limited amounts of capital available, higher-return alternatives he believes to be available, or perceived risk.⁵⁷⁷ As a financial investor, Onex had every reason to drive a hard bargain. Its universe of potential alternative investments – other investments for which it could use the money it now decided to use for its purchase of the Boeing facility – extends far beyond the type of aerospace operations Spirit engages in. Onex's website reveals that the company invests in sectors ranging from healthcare, to real estate, to communications.⁵⁷⁸ If an alternative transaction in any of those other sectors would have offered a better price-to-value ratio, there is no reason Onex would

⁵⁷⁶ Even if one were to consider valuation itself relevant to the issue of pass-through, Mr. Wachtel's approach to such valuation is oversimplified and at odds with economic realities. Economists recognize that real-life valuation is not as straightforward an exercise as the EC suggests. For example, they acknowledge that valuation results will depend on the information available to those performing the valuation (information transparency, information (a)symmetry); that market actors make individual choices as to how to value certain information and what information is relevant, what interest rates and risk factors to use to discount future values to the present, how much weight to give to various elements of value; and that individual market actors may rely on different assumptions in their valuations. Indeed, Damodaran, for example, notes that even the most careful and detailed valuations are "colored ... by assumptions that we make about the future of the company and the economy" and that "[i]t is unrealistic to expect or demand absolute certainty in valuation, since cash flows and discount rates are estimated." Aswath Damodaran, *Investment Valuation* (2002), p. 4 ("Myth 3: A good valuation provides a precise estimate of value") (Exhibit US-1297). Thus, even if valuation were relevant as such, the EC cannot make assumptions of how Onex and Boeing, respectively, would have valued the Wichita facility at the time, and the possible future IRBs in particular, or whether they would have taken into account the latter in their valuation at all. There is, in other words, no basis to assume any alleged value of possible future IRBs was reflected even in the valuations performed at the time, let alone that such value was transferred to Boeing as part of the purchase price.

⁵⁷⁷ Indeed, significant risk factors were present in the Wichita asset sale that may have substantially reduced the price Onex would have been willing to pay. Such risks would include, for example, the fact that the company's commercial viability depends largely on one particular aircraft program (Boeing 737) and one future project (the Boeing 787); the uncertainty as to Spirit's ability to operate effectively as a stand-alone company; possible labor union issues, including work stoppages; and the transition from Boeing's internal accounting mechanisms to an entirely new independent accounting post-sale. See, e.g., Spirit AeroSystems, 2006 Form 10K, p. 23, see: http://library.corporate-ir.net/library/19/196/196548/items/240737/Spirit_Aero_AR_06.pdf (last visited April 11, 2008).

⁵⁷⁸ See www.onex.com (last visited March 31, 2008).

have had to accept the price Boeing was demanding for its Wichita facility. In other words, if the price Onex paid actually equaled the value it estimated based on all current and future assets and revenue streams that it foresaw, the purchase of the Wichita facility would have been a zero-sum game and Onex would have had no incentive to go through with it. The EC – and its expert Mr. Wachtel – nowhere deal with this fundamental reality.⁵⁷⁹

443. Finally, Mr. Wachtel also ignores actual evidence of the elements that did play a role in Onex’s valuation. Publicly available information suggests that the possibilities of renegotiation of union contracts and the growth opportunities that could be derived from diversification of the group of purchasers that Spirit would work for and the increased trend towards outsourcing in the industry were among the key value drivers for the transaction.⁵⁸⁰ Thus, Onex’s valuation would have taken into account the possible value to be created through re-negotiation of union contracts – something Boeing on its own would likely have been unable to do. Similarly, Onex would have perceived additional value based on further capacity utilization, for example expanding its customer base to include other aerospace companies, including Airbus – which, indeed, it did following the acquisition. While there is clear evidence that such factors played a role in Onex’s decision-making and valuation process, there are no indications – and the EC has presented no evidence – that any alleged future IRB values played a similar role.

444. In sum, Professor Wachtel’s analysis is beside the point because it does not address price – the only way in which Onex could have transferred any alleged value of IRBs to Boeing – but value. Mr. Wachtel himself acknowledges that “it might well be difficult to estimate the future cash flows that stem from the capital asset”. But the fact that it may be difficult to do so does not absolve the EC of its obligation to demonstrate that alleged future IRB benefits were indeed part of any valuation performed by Onex, nor of its more relevant obligation to demonstrate that such future value in fact passed-through to Boeing in the price Onex eventually paid. The EC cannot rely on a theoretical model that – based on assumptions of full information, homogeneous expectations, and an absence of negotiating dynamics – simply assumes that Onex would have accorded value to any future IRBs and that such value somehow would have been captured fully in the price Onex paid Boeing. The mere “belief” of pass-through that the EC’s expert professes is no substitute for evidence. Indeed, a more realistic economic assessment shows that there is

⁵⁷⁹ Indeed, several facts indicate that price probably did not equal value. Thus, for example, Boeing’s 2005 financial report indicates that Boeing recorded a substantial net loss on the sale, providing at least one indicator that Boeing had a real incentive to sell and Onex purchased at a good price. (Boeing 2005 Annual Report, Financials, p. 61 (Exhibit US-1298). Even more clearly, Boeing sold its Wichita facilities for approximately US\$1.1 billion. As of December 31, 2007, the company’s assets are valued at US\$ 3.3 billion. (<http://www.onex.com/index.taf?pid=111>, last visited April 11, 2008). Clearly, not all future value was included in the price Onex paid.

⁵⁸⁰ Spirit AeroSystems 2006 Annual Report, p. 5 (describing the labor contract renegotiation and lay-offs that occurred immediately post-sale) (Exhibit US-1299); Credit Suisse Aerospace & Defense Conference, December 6, 2006, pp. 9, 15-18 (pointing out growth opportunities based on the outsourcing trend in the industry and the increased work Spirit was expecting to be doing for companies other than Boeing). See, <http://library.corporate-ir.net/library/19/196/196548/items/262629/CreditSuisse.pdf> (last visited April 11, 2008).

no reason, let alone evidence, to even assume that alleged future IRBs were taken into account by Onex in its valuation of the Boeing Wichita plant, let alone to assume that any such value fully passed-through to Boeing in the price eventually paid.

2. K DFA Bonds

257. *According to the European Communities, "[t]he United States does not dispute the existence or amount of the financial contribution from the K DFA bonds, within the meaning of either Article 1.1(a)(1)(i) (i.e., direct or potential direct transfer of funds) or Article 1.1(a)(1)(ii) (i.e., government revenue foregone or not collected) of the SCM Agreement". Is that correct? Does the United States accept that the measures at issue involve a "financial contribution", and does the United States accept the European Communities' estimate that "the K DFA bonds result in a financial contribution worth \$122 million from 2005 through 2024"? (EC SWS, para. 254)*

445. The United States accepts that the measures at issue related to the Kansas Development Finance Authority ("K DFA") bonds involve a financial contribution under the SCM Agreement. However, this financial contribution is provided to Spirit, a company that is independent and unrelated to Boeing.

446. Additionally, the United States does not accept the amount of the financial contribution set forth by the EC. The EC's entire claim with respect to the K DFA bonds is based on the flawed theory that at the time of the transaction between Boeing and Spirit, the State of Kansas was "committed to providing Boeing Wichita and its successor entity, Spirit, continuing subsidies through the issuance of revenue bonds by the {K DFA} and associated grants."⁵⁸¹ In fact, there was no such commitment,⁵⁸² and K DFA bonds were first issued to Spirit *after* the transaction between Boeing and Spirit closed.

447. Even if there were certainty that Spirit would receive K DFA bonds, there was no certainty as to the amount of future payments. As the United States set forth in its FWS, the future interest payments to Spirit are funded by the withholding of a portion of income tax of employees of Spirit. The EC's estimate of the amount of the financial contribution is based on Spirit's employment figures from the 2002-2004 period and assumes that Spirit's employment levels would remain the same through 2024 – neither of which was knowable at the time Boeing sold its Wichita business. Indeed, even the EC seems to acknowledge that "the precise amount of the first tranche of bonds was unknown at the time the deal closed."⁵⁸³

448. The number of employees over time is uncertain. In addition, employees often have choices as to how much of their income is withheld and the level of withholding is based on

⁵⁸¹ Wachtel Report (Exhibit EC-16), p. 4.

⁵⁸² US FWS, para. 649.

⁵⁸³ EC SWS, para. 260.

multiple facts in addition to salary.⁵⁸⁴ Accordingly, the EC's estimate of the amount of the financial contribution related to the KDFA bonds is without merit.⁵⁸⁵

258. *According to the European Communities, the United States accepts that "the KDFA bonds provide a benefit within the meaning of Article 1.1(b) of the SCM Agreement." (EC SWS, para. 255) Is that correct?*

449. The United States accepts that the KDFA bonds provide a benefit within the meaning of Article 1.1(b), but none that is relevant to this dispute. The benefit is provided to Spirit, not Boeing. And as the United States has set forth in detail, the EC has failed to establish that the benefit of any of the KDFA bonds issued to Spirit pass through to Boeing.⁵⁸⁶

K. STATE OF ILLINOIS AND MUNICIPALITIES THEREIN

1. State of Illinois: Relocation Expense Reimbursements

259. *At paras. 275-276 of its SWS, the European Communities provides a new estimate of the amount of the relocation expense reimbursements that Boeing will receive pursuant to the Relocation Act. Does the United States accept the EC figures?*

450. The United States accepts the EC's figures set forth in paragraphs 275-276 of the EC SWS for the amount of the relocation expense reimbursements that Boeing will receive through 2006 pursuant to the Corporate Headquarters Relocation Act ("CHRA"). However, the amount of the reimbursements provided after 2006 is too speculative to include because it is based on Boeing's annual employee withholding tax, which will vary based on employee income and personal tax deductions.⁵⁸⁷

451. Indeed, the EC's method of arriving at its revised estimate demonstrates the speculative nature of future relocation expense reimbursements. The EC accepts the U.S. figures for the amount of the reimbursements in 2002 and 2006. The EC then bases its estimate regarding future relocation expense reimbursements from 2007 through 2011 on the percentage [***] in annual reimbursement amounts from 2004-2005 and 2005-2006.⁵⁸⁸ The EC provides no basis for this approach. In fact, the [***] in reimbursement amounts vary significantly from year to year ([***] from 2004 to 2005 and [***] from 2005 to 2006),⁵⁸⁹ and accordingly do not provide a basis to project future reimbursement amounts.

⁵⁸⁴ US FWS, para. 652.

⁵⁸⁵ US FWS, paras. 651-653.

⁵⁸⁶ US FWS, paras. 647-650.

⁵⁸⁷ US RPQ1, para. 663.

⁵⁸⁸ EC SWS, para. 276.

⁵⁸⁹ US FWS, para. 661.

452. Even if the reimbursement amounts from 2002-2006 could be relied upon to estimate the reimbursement amounts from 2007-2011, there is no basis for using the data from only two of those four years as a basis for the estimate.

2. State of Illinois: EDGE Tax Credit

260. *At para. 289 of its SWS, the European Communities argues that "the United States has offered no support for its assertion that the amount is less than the \$17 million from 2003 through 2017 claimed by the European Communities." How does the United States respond to the European Communities' arguments at para. 289 of its SWS?*

453. With respect to the amount of the financial contribution under the Economic Development for a Growing Economy ("EDGE") tax credit for 2003-2017, the United States has noted that the extent to which Boeing might be in a position to apply credits in the future is speculative.⁵⁹⁰ The EC challenges as "revenue foregone" future potential usage of tax credits, but whether and to what extent those tax credits may be taken in the future is uncertain. As the United States stated previously, Boeing has [***].⁵⁹¹

261. *How does the United States respond to the following argument at para. 294 of the EC SWS:*

"With respect to the United States' Article 2.1(c) arguments, the United States attempts to divert the panel's attention by focusing on the more broadly-available 10-year EDGE tax credits pursuant to the EDGE Tax Credit Act. The United States ignores the fact that the 15-year EDGE tax credit is available only to companies that satisfy the criteria set forth in the Relocation Act; it also ignores the fact that the State of Illinois has entered into a 15-year EDGE tax agreement based on the Relocation Act's amendments with only one company – Boeing."

454. It is the EC that ignores the critical facts relevant to the specificity analysis of this measure. The EDGE tax credits are not *de facto* specific under Article 2.1(c) of the SCM Agreement because the credits are broadly available to any company that meets the requirements of the EDGE Tax Credit Act. As the United States has set forth, the EC errs in focusing on the fact that the CHRA provides for a 15-year EDGE tax credit because the EDGE tax credits are broadly available, and for the first ten years, benefits to Boeing are the same as to any other recipient of the EDGE tax credits.⁵⁹² Since the five-year extension under the CHRA does not begin until 2012, it is not relevant to the EC's claims in this dispute.

⁵⁹⁰ US FWS, para. 669.

⁵⁹¹ US FWS, para. 669.

⁵⁹² US FWS, para. 672.

3. City of Chicago and Cook County: Property Tax Abatements

262. *At paras. 300-301 of its SWS, the European Communities provides a new estimate of the amount of the property tax abatements by the City of Chicago and Cook County. Does the United States accept the EC figures?*

455. The United States accepts the EC's revised estimate of the amount of the property tax abatements by the City of Chicago and Cook County through 2006. However, any future local property tax abatements that Boeing may receive are too speculative to be counted as a benefit to Boeing.⁵⁹³

263. *How does the United States respond to the following argument at para. 304 of the EC SWS:*

"The European Communities has already explained above that the measures at issue are the City of Chicago and Cook County ordinances and agreements that provide Boeing with property tax abatements in connection with the relocation of its corporate headquarters to Chicago, not the Illinois State property tax code in general. The United States, however, addresses the latter, not the former. In doing so, the United States commits an error because specificity pursuant to Article 2.1 must be assessed with respect to the granting authorities at issue, which in this case are the City of Chicago and Cook County, not the State of Illinois." (footnote omitted)

456. The EC is correct that specificity pursuant to Article 2.1 must be assessed with respect to the granting authorities at issue. However, with respect to property tax abatements, the granting authorities at issue, the City of Chicago and Cook County, are permitted to enter into such property tax abatements with a broad range of companies.⁵⁹⁴ Accordingly, the property tax abatements at issue in this dispute are not specific to Boeing.

III. PROHIBITED SUBSIDIES

A. FSC/ETI AND SUCCESSOR ACT SUBSIDIES

266. *In its response to Question 58, the United States argues that the EC's claim that FSC/ETI measures and successor legislation is contingent in law on export performance is "superfluous" and "provides no basis for the Panel to make a finding or render a recommendation", and for these reasons, "the Panel should decline to address the question whether FSC or ETI is a prohibited subsidy" (US RPQ1, para. 166). Can a*

⁵⁹³ US FWS, para. 679.

⁵⁹⁴ As set forth in paragraph 680 of the US FWS, these enterprises include commercial and industrial firms, academic or research institutes, historical societies, recreational facilities, housing for older persons, property used for horse or auto racing, and relocated corporate headquarters.

panel refuse to address a claim on the basis that it is "superfluous" and "provides no basis for the Panel to make a finding or render a recommendation"?

457. Yes, a panel can decide not to address a claim where it will not further the resolution of the dispute. As the United States explained in its first written submission,⁵⁹⁵ there is no dispute between the United States and the EC as to whether FSC or ETI benefits are subsidies prohibited by the SCM Agreement or as to the EC estimate of FSC/ETI benefits related to large civil aircraft during the 1989 to 2006 period. The DSB has ruled that FSC/ETI are prohibited subsidies, and has recommended that the United States bring those measures into compliance with the SCM Agreement. Another finding or recommendation would add nothing to the force or effect of those earlier rulings or recommendations. The United States has, therefore, argued that making such a finding or recommendation would be superfluous and that adding additional rulings and recommendations would not provide any additional assistance to “secur{ing} a positive solution” (Article 3.7 DSU).

458. Indeed, the United States notes that in the EC’s first written submission, it asks the Panel to recommend that the United States “withdraw its prohibited subsidies without delay,” which would mean that the United States would have an additional period of time in which to withdraw FSC/ETI subsidies to Boeing. As the United States has explained, Boeing has already affirmed that it will not be receiving FSC/ETI subsidies after 2006.

B. STATE OF WASHINGTON: HB 2294 TAX INCENTIVES

267. *The Panel is aware of the evidence and arguments advanced by the parties on the question of whether the US market can absorb 36 superefficient airplanes per year. Have the parties submitted any evidence on the question of whether the authorities that granted the alleged subsidy were aware of the capacity of the US market?*

459. As a preliminary matter, it is important to reiterate the legal standard for establishing export contingency. Pursuant to Article 3.1(a) of the SCM Agreement, in order to establish that an alleged subsidy is export contingent, the complaining party would have to establish three elements: (a) the “granting” of a subsidy; (b) that is “tied to”; (c) “actual or anticipated exportation or export earnings.” In other words, even if the EC were able to show “awareness” of the capacity of the U.S. market on the part of the authorities that granted the tax treatment in HB 2294, this awareness would not be sufficient to establish export contingency. The EC would still have to show that any awareness of the capacity of the U.S. market translated into an anticipation of exportation or export earnings; and that the granting of the alleged subsidy was tied to such anticipation of exportation or export earnings. The EC has failed to do so.

460. The United States notes that no evidence of any awareness of the capacity of the U.S. market has been submitted. None of the evidence suggests in any way that the authorities that

⁵⁹⁵ US FWS, para. 422.

granted the alleged subsidy were either aware of or took into account the capacity of the U.S. market. Indeed, it is hard to see how the authorities that granted the alleged subsidy could have been aware of the capacity numbers relied on by the EC. The only information that the EC suggests supports its argument are its own calculations and assumptions based on market forecasts that largely post-date the granting of the alleged subsidy.⁵⁹⁶ It is therefore difficult to comprehend how the authorities granting the alleged subsidies could have been aware of these numbers.

268. *What is the significance, if any, of the fact that the siting requirement was expressed in numerical terms (i.e. 36 superefficient airplanes per year) rather than in terms of, for example, a facility with the capacity to meet "all" or "half" or "two thirds" of Boeing's anticipated US production capacity?*

461. As the United States has previously explained, the siting requirement in HB 2294 aims to assist in retaining aerospace manufacturing in the State of Washington by requiring not only that the siting concerns a “final assembly facility” but also that it concerns a “significant” final assembly facility.⁵⁹⁷ A “significant” assembly facility will serve the objective of creating higher value jobs, tax income, and upstream activity in Washington State. To this end, HB 2294 objectively defines the term “significant” as “capable of producing 36 superefficient airplanes a year.” The numerical requirement gives the State some certainty that its objectives are being met. In this respect, the United States also refers to its response to Question 272.

462. The more subjective thresholds in the Panel’s question – “all,” or “half,” or “two-thirds” – may lead to a different export contingency analysis under the SCM Agreement than the numerical requirement in HB 2294. In particular, such thresholds would rely on more subjective assessments of market forecasts, size of the U.S. market, and would be subject to potential changes in market expectations over time. While the export contingency analysis of such thresholds would depend on all the particulars of such a measure and how it is applied, such thresholds would lead to less certainty for the State regarding whether its goals would be met.

463. The United States would also like to note that despite the phrasing in the Panel’s question, the siting requirement in HB 2294 was in no way limited to Boeing or to any particular aircraft. Any manufacturer that decided to site a commercial airplane final assembly facility in Washington State could have “triggered” the coming into force of the relevant provisions. Thus, for example, if Airbus had decided to site its A350 final assembly facilities in Washington State, it may have been able to satisfy the siting requirement.

269. *At para. 45 of its Written Submission, Canada states that the measure at issue did not require Boeing to sell "more than it otherwise would have in export markets", nor did it provide any incentives "that could have the effect of distorting Boeing's market*

⁵⁹⁶ EC FWS, para. 981.

⁵⁹⁷ US FWS, para 686.

orientation in favour of exports". Are these statements accurate? If these allegations were proven, would they be relevant to the analysis that must be undertaken under Article 3.1(a) and Footnote 4?

464. The statements made by Canada are correct. The measure at issue did not require Boeing to sell more than it otherwise would have in export markets, nor did it provide any incentives that could have the effect of distorting Boeing's market orientation in favor of exports.

465. Assuming *arguendo* that the measure would "require" Boeing to sell "more than it otherwise would have in export markets," such a subsidy would appropriately be considered export contingent under Article 3.1 of the SCM Agreement. This is because in such a case, the granting of the subsidy is made contingent upon a "requirement" to sell "more than it otherwise would have in export markets."

466. Whether a measure is export contingent when it provides incentives "that could have the effect of distorting {a company's} market orientation in favor of exports" would depend on the structure of such incentives. Such a measure would only be export contingent if it falls within the definition of export contingency set forth in Article 3.1(a) and footnote 4 of the SCM Agreement.

467. The United States has set out this test and various kinds of subsidies that can be considered export contingent within the meaning of those provisions in its earlier submissions.⁵⁹⁸ In particular, the United States has pointed to the facts concerning the Technology Partnerships Canada ("TPC") program in the *Canada – Aircraft* dispute. In that case, the Canadian government gave up-front financing to aircraft manufacturers to underwrite the costs of developing a new aircraft model in exchange for a commitment by the manufacturers to repay the financing at a specified, below-market rate for each sale of the covered aircraft over a specified number of sales.⁵⁹⁹ Evidence before the panel, including evidence of the Canadian government's reliance on a manufacturer's projected export sales as a key part of the decision to provide TPC financing, led the panel to conclude that the TPC assistance to the Canadian regional aircraft industry was an export contingent subsidy within the meaning of Article 3.1(a) and footnote 4 of the SCM Agreement.⁶⁰⁰ The Appellate Body upheld that conclusion.⁶⁰¹

468. Thus, the determinative question for export contingency is not whether a measure "could have the effect of distorting {a company's} market orientation in favour of exports." The determinative question remains whether there is the granting of a subsidy that is "tied to" actual

⁵⁹⁸ US FWS, paras. 684-702; US SWS, paras. 149-158; US RPQ1, paras. 150-162; US Comments on EC RPQ1, paras. 170-198.

⁵⁹⁹ *Canada – Aircraft* (Panel), paras. 9.282-9.315.

⁶⁰⁰ *Canada – Aircraft* (Panel), paras. 9.282-9.315.

⁶⁰¹ *Canada – Aircraft* (AB), para. 180.

or anticipated exportation or export earnings. As the United States has demonstrated, the EC has failed to set forth a *prima facie* case that HB 2294 is a prohibited export subsidy under the SCM Agreement.⁶⁰²

272. *Why did the State of Washington choose a production capacity of "36 superefficient airplanes per year"?*

469. The aerospace manufacturing industry in Washington State generates substantial tax revenue, employment, and economic activity. The requirement that an aerospace manufacturer establish a “significant” production capacity, defined as the capacity to produce 36 superefficient airplanes per year, in order to receive the tax treatment in HB 2294, was designed to serve the State’s objective of generating tax revenue, employment, and economic activity associated with aerospace manufacturing.

IV. ADVERSE EFFECTS

273. *Does the United States challenge the European Communities' designations of the various Airbus LCA as "like products" in relation to each of the alleged "subsidized products" identified by the European Communities in its serious prejudice claims?*

470. No. For purposes of this proceeding, the United States does not challenge the EC’s designation of three allegedly subsidized aircraft (100-200 seat aircraft, 200-300 seat aircraft, and 300-400 seat aircraft) or its designation of three like products, each corresponding to one of the allegedly subsidized products. The United States does not believe that the EC’s designations are the most appropriate way to analyze large civil aircraft, and do not reflect the approach the United States would take if it were the complaining party. Thus, while the United States does not challenge the EC’s market divisions in this dispute, it reserves its right to challenge such a division of the large civil aircraft market in any other proceeding.

274. *Do the parties agree that, given the European Communities' identification of three alleged "subsidized products", each one of which competes with, and has caused serious prejudice to, a distinct set of "like products" in separate LCA product markets, the Panel is precluded, as a matter of law, from taking into account any adverse effects which may be caused by subsidies to one of the "subsidized products" on products other than the corresponding "like products" in the corresponding LCA product market identified by the European Communities?*

471. The SCM Agreement, as a matter of law, precludes a panel from taking into account the effect of subsidies on a product that is not a “like product” to the allegedly subsidized product (for purposes of displacement or impedance) or that is not in the same market with the allegedly

⁶⁰² US FWS, paras. 684-702; US SWS, paras. 149-158; US RPQ1, paras. 150-162; US Comments on EC RPQ1, paras. 170-198.

subsidized market (for lost sales or price suppression). These conclusions arise directly from the text of the SCM Agreement.

472. A finding of serious prejudice under Article 6.3(a) or (b) requires a finding that the effect of the subsidy is to displace or impede imports or exports “of a like product of another Member” into the market of the subsidizing Member or from a third country market. Thus, any indirect or “spillover” (to use the EC’s parlance) effects that alleged subsidies on one subsidized product may have on a product that is not “like” it do not give rise to, or support a finding of, serious prejudice under Article 6.3(a) or (b). The EC made clear that its groupings of allegedly subsidized Boeing products with Airbus like products into distinct product markets are exclusive. It does not assert that any Airbus product is “like” any Boeing product outside of the product markets it identifies.⁶⁰³ Accordingly, alleged subsidies to a Boeing aircraft outside the product market covered by a particular EC displacement/impedance claim cannot, as a matter of law, cause displacement or impedance within the meaning of Article 6.3(a) or (b) to the Airbus like product covered by that claim.

473. Article 6.3(c) allows a finding of price suppression or lost sales only if the effect of the subsidy is “significant price undercutting by the subsidized product as compared with the price of a like product of another Member in the same market or significant price suppression, price depression or lost sales in the same market.” As the Appellate Body has concluded,

recalling that one accepted definition of “market” is “the area of economic activity in which buyers and sellers come together and the forces of supply and demand affect prices,” it seems reasonable to conclude that two products would be in the same market if they were engaged in actual or potential competition in that market.⁶⁰⁴

As the complaining party, the EC bears the burden of identifying the relevant “market” under Article 6.3(c),⁶⁰⁵ and “establish{ing} that the subsidized product and its product are in actual or potential competition in that alleged market.”⁶⁰⁶ The EC has attempted to meet that burden with reference to the three groupings of Airbus and Boeing aircraft that it identified (100-200 seat, 200-300 seat, and 300-400 seat aircraft) as constituting “three different product markets.”⁶⁰⁷ It has failed to identify any “market” beyond those three markets, much less establish that a Boeing aircraft not included in a given “product market” is in actual or potential competition with Airbus aircraft in that product market. Therefore, Article 6.3(c) precludes a finding that the effect of

⁶⁰³ EC FWS, para. 1154.

⁶⁰⁴ *US – Upland Cotton (AB)*, para. 408.

⁶⁰⁵ *US – Upland Cotton (AB)*, para. 400.

⁶⁰⁶ *US – Upland Cotton (AB)*, para. 409.

⁶⁰⁷ EC FWS, para. 1154.

subsidies to an aircraft in one of the three EC “product markets” caused price suppression or lost sales in another product market.

474. In its responses to Questions 67 and 68, the EC argued that in spite of its allegation of three discrete “product markets,” there are “spill-over” effects when aircraft producers sell multiple models of large civil aircraft in “bundled” transactions involving multiple aircraft “products.”⁶⁰⁸ In other words, when a purchaser buys two types of aircraft at once in a package deal, the effect of alleged subsidies on *one* of the aircraft leads to a decision to buy the other aircraft from the same manufacturer. The United States agrees that in package deals, sales terms for one product influence the purchaser’s willingness to take the entire package. However, when a complaining party identifies the two products as separate like products competing in discrete markets, Article 6.3(c) does not permit that influence to be treated as the affect of the alleged subsidy on the allegedly subsidized product under consideration.

475. In this dispute, the EC has asserted only that allegedly subsidized Boeing aircraft compete in “product markets” with Airbus aircraft in the “same {product} market.”⁶⁰⁹ It states with regard to bundled sales that:

This does not, however, mean, that the customer considers LCA from different product markets to compete, or be substitutable. Rather, in its request for a proposal, the customer specifies precisely the number and type of aircraft that would match its very specific product requirements. As a consequence, the customer in effect runs a number of different product competitions under the umbrella of a single sales campaign. These product competitions take place between the products that the European Communities identified as competing in a product market.⁶¹⁰

Thus, the EC is clear that its claims involve three discrete product markets, even when a purchaser packages its purchases of aircraft in multiple product markets, and that it alleges no competition among the markets. In this context, the EC’s product market definitions and its “spill-over” arguments are mutually exclusive. If there are, indeed, separate product markets, Article 6.3 does not provide for a finding that subsidies to products in one market cause lost sales or price suppression in another market. On the other hand, if products in one market cause lost sales or price suppression in another, then there must be competition between the two, in which case they are not different markets for purposes of Article 6.3(c). The EC cannot have it both ways.

476. The EC also tries to have it both ways with the \$7.4 billion in alleged subsidies it allocates to the 717, 757, 767, 747, MD-80, MD-90, and MD-11 aircraft, which amount to 39

⁶⁰⁸ EC RPQ1, paras. 243-248.

⁶⁰⁹ US Comments to EC RPQ1, para. 238.

⁶¹⁰ EC RPQ1, para. 245.

percent of the total amount of alleged subsidization over the 1989-2006 period.⁶¹¹ The EC admits that “these subsidies have no present price effect on Airbus aircraft subject to the European Communities’ claim,”⁶¹² and that “subsidies benefitting these aircraft do not have any present effects on Airbus.”⁶¹³ Even so, the EC includes the alleged subsidies to these Boeing and McDonnell Douglas aircraft in its “alternative” causation analysis, which purports to compare the total amount of alleged subsidization of Boeing from 1989 to 2006 to Boeing’s financial data in an attempt to show that Boeing’s large civil aircraft operations would have been unsustainable without the alleged subsidies.⁶¹⁴ The United States has demonstrated that, even if one accepts, *arguendo*, the EC’s untenable assertion that Boeing received a total of \$19.1 billion in subsidies over the 1989-2006 period, this alternative analysis is contrary to the evidence. A proper comparison of the total amount of alleged subsidies for the 1989-2006 period to BCA’s aggregate operating profit and cash flow shows that BCA would have more than enough non-subsidy funds to sustain its operations over the long term.⁶¹⁵ If that total amount of alleged subsidies is reduced by 39 percent to reflect alleged subsidies to Boeing aircraft that the EC admits “do not have any present effects on Airbus,”⁶¹⁶ then it becomes all the more obvious that the EC has failed to establish a causal link between the alleged subsidies and serious prejudice.

281. *Does the United States agree with the European Communities (EC OS2, para. 102) that, even when the allocation of the alleged subsidies is made on the basis of revenues rather than "seats", the per-aircraft subsidy magnitudes and ad valorem rates remain substantially the same? If this is the case, would the United States object to the Panel using "seats" as the allocation methodology for assessing the magnitude of the alleged subsidies? What methodology does the United States suggest is appropriate for allowing the Panel to determine the magnitude of the alleged subsidies in the context of our assessment of whether they have caused adverse effects?*

477. The EC has provided no basis for its assertion that allocating the alleged subsidies on the basis of revenues would produce per-aircraft subsidy magnitudes that are “virtually identical” to those allocated on the basis of “seats.”⁶¹⁷ The EC has not provided worksheets to show how it reached this conclusion. The “revenues” used by the EC for purposes of its analysis seem to be “imputed” order revenues calculated by the EC’s consultants, ITC.⁶¹⁸ Such “imputed” revenues

⁶¹¹ The three “product markets” subject to the EC claims exclude the 717, 757, 747, MD-80, MD-90, or MD-11. EC FWS, para. 1162.

⁶¹² EC Comments on US RPQ1, para. 225.

⁶¹³ EC Comments on US RPQ1, para. 227.

⁶¹⁴ EC SWS, paras. 706-732.

⁶¹⁵ US SWS, para. 176; US Comments on EC RPQ1, paras. 267-268.

⁶¹⁶ EC Comments on US RPQ1, para. 227.

⁶¹⁷ *Cf.* EC OS2, para. 102.

⁶¹⁸ Compare ITR Response to US Criticisms of ITR Magnitude Report at para. 20 (Exhibit EC-1181) with Per-Aircraft Subsidization and Subsidization Rates Using Revenue as the Allocation Basis (Exhibit EC-1332).

bear no relationship to Boeing's actual revenues and, therefore, invalidate any conclusion based upon them. Imputing revenue rather than using actual revenue is no more a valid methodology than imputing orders in place of using actual order data. As the United States has demonstrated, using "imputed" orders or, by extension, imputed revenues, is an invalid methodology that improperly inflates alleged *ad valorem* subsidy levels.⁶¹⁹

478. The EC's allocation methodology is also inconsistent with the EC's assertions about how the alleged subsidies function. The EC contends that the vast majority of the alleged subsidies took the form of "subsidies increasing Boeing's non-operating cash flow."⁶²⁰ Because funds of this nature are *not* tied to the development, production, or sale of large civil aircraft, the EC's effort to impose an allocated portion of these alleged subsidies to each aircraft sold is arbitrary. The effort to perform this allocation on the basis of seats is doubly arbitrary.⁶²¹ Most of the remaining alleged subsidies, which the EC describes as "reducing Boeing's marginal unit costs," are taken as percentages of income (for FSC/ETI) or revenue (for Washington State and City of Everett B&O tax). To use an example, the amount resulting from a \$100 million sale would be the same regardless of the number of seats sold.⁶²² For such a measure, allocating the alleged subsidy based on the number of seats, as the EC's calculations do, is also completely artificial.⁶²³

479. The core problem of a seat-based methodology, however, lies in its implicit assumption that any alleged subsidies would be distributed among large civil aircraft based on their seating capacity. That, however, is *not* the EC's underlying theory. Rather, the EC argues that the alleged subsidies provided Boeing with the flexibility to price particular aircraft at levels that would otherwise not be possible and to develop the 787 faster and bring it to market sooner than would otherwise be possible. The United States has shown that the evidence does not support either theory. However, for purposes of this question, the critical fact is that the number of seats in a particular aircraft is irrelevant under either theory.

⁶¹⁹ US SWS, paras. 174-175; US Comments to EC RPQ1, paras. 263-267; U.S. response to Question 283.

⁶²⁰ *E.g.*, Exhibit EC-17, pp. 3-4.

⁶²¹ *E.g.*, Exhibit EC-13, table 9.

⁶²² ITR's methodology disregards this truth. To simplify the numbers, suppose the large civil aircraft market consisted of two \$1 billion sales in a year: sale A being 10 aircraft with 120 seats each, and sale B being ten aircraft with 80 seats each. If there was a revenue based 1 percent subsidy, each sale would receive a \$10 million subsidy. ITR, however, would add these values together and allocate them back to the sales on the basis of seats, which would result in allocation of \$12 million to sale A and \$8 million to sale B, a result at odds with how the subsidy operated.

⁶²³ Compare Exhibit EC-13, table 4 (putting FSC/ETI in allocation group B) with table 9 (allocating values for group B based on seats). Another way to demonstrate the fallacy of the EC's assertion is to conduct a mathematical test. An allocation based on seats would yield the same result as an allocation based on revenues only if revenues were spread evenly over seats – that is, the price per seat would have to be roughly the same among different large civil aircraft. However, this is clearly not the case. The per-seat price indicated by the ITR Magnitude Report for the 777-300 is \$350,353 (\$128.93 million divided by 368 seats), which is 48 percent greater than the 737-800's per-seat price of \$236,481 (\$38.31 million divided by 162 seats). ITR Magnitude Report, Table 10 (Exhibit EC-13).

480. In light of the EC’s insistence that most subsidy funds would have the effect of increasing non-operating cash flow and allow the company to capture additional orders by setting prices lower than it otherwise would, the proper measure of magnitude would reference the *value* of Boeing’s *actual* orders in a given year, not the number of seats sold that ITR “imputes” to a given model in a single year.

282. *Please comment on the European Communities' statement (EC RPQ1, para. 281) that the number of passenger seats is a subsidy-neutral allocation method that reflects the higher value and higher cost of larger LCA, and particularly, its observations (at footnote 269) regarding the inappropriateness of sales revenue as a basis for allocating subsidies.*

481. The EC’s seat-based allocation fails for several reasons. As described in the response to Question 281, the methodology bears no relation to the EC arguments that the nature of the alleged subsidies is to either increase non-operating cash flow or reduce the burden of taxes charged against Boeing’s income (FSC/ETI) or revenue (Washington State B&O tax). These have nothing to do with the number of seats in particular aircraft. The seat-based allocation also ignores realities in the market. Contrary to the EC’s argument, the relationship between the value of a large civil aircraft and its seating capacity is neither precise nor constant.⁶²⁴ For example, Boeing’s catalog prices for the 787-3, a short-range model that typically seats 290 to 330 passengers, are lower than those for the 787-8, a longer-range model that typically seats 210 to 250 passengers.⁶²⁵ Finally, in performing its seat-based allocation, the EC used imputed orders.⁶²⁶ Thus, the allocations it proposes have no relation to actual competitive conditions in the period covered by the EC allegations.

482. In short, the EC seat-based allocation is not “neutral” to subsidies. It acts as if the alleged subsidies operated differently than the EC claims they operate, and also differently from the way the payments actually do operate. Therefore, it is not an appropriate way to evaluate the magnitude of the alleged subsidies.

483. Footnote 269 in EC RPQ1 attempts to defend the seat-based approach by asserting that:

The number of seats is a better allocation basis than the alternatives – *i.e.*, sales revenue and aircraft units. Subsidies reduce sales revenue; thus if sales revenue were used as the basis upon which to allocate subsidies, proportionately less subsidies would be allocated to the most subsidized aircraft programs.”

However, this argument does not support use of a seat-based allocation. Even if subsidies did reduce revenue, as the EC asserts, allocating on the basis of revenue would not necessarily lead to disproportionate subsidy allocations. To illustrate, assume that a manufacturer received a \$1

⁶²⁴ The previous footnote provides an example.

⁶²⁵ Boeing Commercial Airplanes: Jet Prices (2007) (Exhibit US-1310).

⁶²⁶ Exhibit EC-13, tables 8 and 9.

billion subsidy in a given year, and that the manufacturer's total revenue in that year is \$10 billion, comprised of \$8 billion from sales of Aircraft A and \$2 billion of Aircraft B. If subsidies reduce revenue by the same proportion for each type of aircraft, a revenue-based allocation would assign 80 percent of the subsidy (\$800 million) to Aircraft A and 20 percent of the subsidy (\$200 million) to Aircraft B. This result would not change even if subsidies had the effect of reducing revenue.⁶²⁷

484. This example is, of course, hypothetical. Whether subsidies reduce sales revenue by lowering prices, and, if so, whether they do so by the same or different proportions across several subsidized products, are questions of fact for a complaining party to prove based on the evidence. The EC, however, simply assumes that some aircraft are more subsidized than others when it asserts that, "if sales revenue were used as the basis upon which to allocate subsidies, proportionately less subsidies would be allocated *to the most subsidized aircraft programs.*"⁶²⁸ This begs the question of whether some aircraft programs are, in fact, subsidized more than others – which the EC has never demonstrated by reference to evidence. The EC's seat-based allocation method may assign proportionately more of the alleged subsidies to some aircraft programs compared to a revenue-based allocation method, but this does not demonstrate that those programs are, in fact, more subsidized than others. Rather, it shows only that a seat-based allocation method yields different results than a revenue-based allocation method. Without evidence demonstrating that some Boeing aircraft programs are more subsidized than others, there is no basis for the EC's criticism that a revenue-based allocation method would yield distorted results.

283. *Please explain in further detail the United States' criticisms (at US Comments on EC RPQ1, paras. 263-264) of ITR's use of "derived orders" in its allocation methodology. It would be particularly helpful if the Panel were able to compare allocations made by ITR on the basis of derived orders with allocations made on the basis of actual orders.*

485. The U.S. criticism of the use of "derived", or "imputed", orders focuses on ITR's failure to assess the magnitude of the alleged subsidies with reference to data on sales that, under the EC's own theory, are supposedly affected by those alleged subsidies – sales that actually occurred in the year Boeing supposedly received the subsidies. Specifically, the EC asserts that most of the alleged subsidies increased Boeing's non-operating cash flow, allowing it to cut prices to levels that it otherwise could not afford. The EC has also asserted that the alleged subsidies enabled Boeing to reduce its prices in particular sales campaigns. Thus, its serious prejudice claims focus on actual behavior in actual transactions.

⁶²⁷ For example, if the subsidies reduced revenue by 5 percent, total revenues would be \$950 million, with \$7.6 billion for Aircraft A and \$1.9 billion for Aircraft B. Allocating subsidies by revenue would still lead to the allocation of \$800 million to Aircraft A and \$200 million to Aircraft B.

⁶²⁸ EC RPQ1, footnote 269 (emphasis added).

486. The imputed orders calculation ignores all of this. It starts with *expected* 2007-2009 aircraft deliveries, and assumes that the customer ordered each aircraft exactly three years earlier, regardless of whether the imputed order year corresponds to the actual order year. In so doing, ITR creates a fictional data set that provides no basis for the objective assessment of the *facts* required under Article 11 of the DSU.

487. In the real world, Boeing’s orders in 2004 were at relatively low levels, while its order levels in 2005 and 2006 were relatively high. The EC alleges that, in sales campaigns that actually occurred during those years, the alleged subsidies enabled Boeing to price its aircraft significantly lower than it would have otherwise. Because the ITR magnitude calculations do not reflect actual Boeing orders to which the EC argues that the alleged subsidies should be allocated, they are analytically useless.

488. The tables below demonstrate this point, comparing ITR’s per-plane alleged subsidy magnitude data for the 2004-2006 period to per-plane alleged subsidy magnitude data that the United States calculated using actual orders as the allocation basis.⁶²⁹

Alleged Subsidy Magnitude per Aircraft (\$1000)

Model	2004			2005			2006		
	ITR Derived Orders	Actual Orders	Difference	ITR Derived Orders	Actual Orders	Difference	ITR Derived Orders	Actual Orders	Difference
737 Family	2,385	4,071	70.69%	2,259	1,172	-48.12%	2,447	1,224	-49.99%
777 Family	5,560	10,040	80.58%	5,274	2,655	-49.66%	5,772	2,766	-52.08%
787 Family	4,513	7,249	60.62%	4,467	1,986	-55.55%	4,725	2,286	-51.61%

⁶²⁹ The Panel should note that, except for inputting actual rather than derived orders, the United States used the same data and followed methodology used by ITR. (The United States took this approach to respond to the question, and not because it accepts the other aspects of the ITR calculations.) Exhibit US-1308 provides the key ITR tables in revised form to show the allocation over actual orders sourced from the Airclaims CASE database (data query as of January 18, 2007). The United States also notes that ITR did not disclose its method for calculating its per-aircraft magnitude and *ad valorem* subsidization rate figures for aircraft families (e.g., “737 Family”). It appears that ITR used a weighted average per-aircraft seating capacity for a given family in each year, weighted based on the proportions of each family model sold in that year:

$$\frac{\text{total number of family seats}}{\text{total units sold}} = \text{weighted average per-aircraft seating capacity}$$

ITR then seems to have used this weighted average per-aircraft seating capacity as the “W” variable in its formula in Table 10, Step 2 of its Magnitude Report to obtain a per-aircraft subsidy magnitude value for each aircraft family. The United States followed this method to obtain the aircraft family alleged per-aircraft subsidy magnitudes and alleged *ad valorem* subsidization rates shown in the above tables. Compare ITR Magnitude Report at Table 10 (Exhibit EC-13), with Revised ITR Magnitude Calculations Using Actual Orders at Revised ITR Table 10 (Exhibit US-1308).

Source: Revised ITR Magnitude Calculations Using Actual Orders, Table A (Exhibit US-1308).

Alleged Ad Valorem Subsidization Rate

Model	2004			2005			2006		
	ITR Derived Orders	Actual Orders	Difference	ITR Derived Orders	Actual Orders	Difference	ITR Derived Orders	Actual Orders	Difference
737 Family	6.11%	10.44%	70.84%	6.36%	3.30%	-48.15%	6.80%	3.40%	-50.01%
777 Family	4.18%	7.55%	80.70%	4.38%	2.20%	-49.67%	4.70%	2.25%	-52.04%
787 Family	5.06%	8.12%	60.49%	5.43%	2.41%	-55.59%	5.63%	2.72%	-51.65%

Source: Revised ITR Magnitude Calculations Using Actual Orders, Table A (Exhibit US-1308).

489. These comparisons leave no doubt as to the distortive effects of ITR’s derived orders methodology. Allocating the alleged subsidy magnitude over actual orders in the years on which the EC’s claims are focused causes the per-plane magnitudes and *ad valorem* subsidization rates in 2005 and 2006 to fall dramatically – by roughly 50 percent – compared to ITR’s method of allocating on the basis of derived orders. Of course, using actual orders causes the per-plane magnitudes and *ad valorem* subsidization rates to be significantly higher in 2004, reflecting that order levels in that year were, in fact, significantly lower than the order levels derived by ITR.

490. The United States disagrees with the EC’s contention that allocating the alleged subsidies on a per-aircraft basis (as would be done in a countervailing duty investigation) is the most accurate way of assessing the magnitude of the alleged subsidies. Allocating the alleged subsidies on the basis of actual order data reinforces the conclusion that the EC’s serious prejudice case is unsupported by the evidence.

491. During the 2004-2006 period, the alleged per-plane subsidy magnitudes and alleged *ad valorem* subsidization rates allocated over actual orders were far higher in 2004 than in 2005 and 2006. The EC’s price effects theory, which asserts that the effects of the alleged subsidies are felt at the time of order, would predict that Boeing’s market share would be higher, and its prices lower, when the alleged subsidization rate is relatively high. Yet, in 2004, Boeing reached a low point in its competitive position; its overall and single-aisle order market shares fell to historically low levels, and it lost key sales at Air Berlin and AirAsia. Then, in 2005 and 2006 – when the alleged per-plane subsidy magnitudes (based on an actual orders allocation) fell sharply compared to 2004 – Boeing was able to regain some of its lost market share, although at the cost of [***].

492. Thus, to the extent that ITR’s magnitude calculations show anything after correction of only one of their methodological flaws, they show that the EC has failed to demonstrate the temporal coincidence between the alleged subsidies and Boeing’s behavior that the EC’s price effects theory would predict.

284. *In conducting its assessment of whether the "effect" of the alleged subsidies is serious prejudice pursuant to Article 6.3, do the parties consider it is either (i) appropriate, or (ii) required by Articles 5 and 6.3, for the Panel to "allocate" or "amortize" over time the alleged non-recurring subsidies? Please identify and discuss any provisions of the SCM Agreement that may have a bearing on whether, and if so, how non-recurring subsidies may be allocated over time in order to assess their effects pursuant to Articles 5 and 6.3. Is it possible that the operation of any of the alleged non-recurring subsidies is such that a temporal allocation of the "benefit" of the financial contributions is not a meaningful way of assessing the "effect" of a subsidy for purposes of Articles 5 and 6.3?*

493. Articles 5 and 6.3 do not *require* the allocation or amortization of non-recurring subsidies over time. By the same token, however, those articles do not prevent a party from addressing the issue of adverse effects by amortizing non-recurring subsidies. Because the EC has attempted to make its *prima facie* case by amortizing the alleged subsidies, it falls to the Panel to evaluate the merits of the EC's case as presented.

494. As to whether allocation or amortization of non-recurring subsidies is appropriate, the United States notes that paragraph 7 of Annex IV envisages the allocation of subsidies from one year to "future production" in subsequent years. However, that provision provides no guidance on how to perform that allocation or how long the period for allocation might be. Under Part V of the SCM Agreement, many Members allocate or amortize the benefit of non-recurring subsidies in countervailing duty investigations to arrive at an *ad valorem* subsidy margin to assess countervailing duties and evaluate negligibility. Members' administering authorities may have established formulas for this purpose. The United States notes that the analysis of the effect of subsidies under Article 6.3 has a different objective, to determine the economic effect on competition, and that formulas or methodologies used in the countervailing duty context may not be appropriate in the Article 6.3 context.

495. In this dispute, the EC has based its allegations of serious prejudice on a temporal allocation of the alleged subsidies. The United States has demonstrated that, even with the EC's allocations, the EC has failed to make a *prima facie* case that the alleged subsidies caused adverse effects. There has, therefore, been no need to address the validity of the EC's allocation formula or the allocation period chosen. However, the United States reserves its right to take a different approach should allocation issues arise in another dispute involving different programs.

496. Lastly, the United States notes that the EC, in presenting its case, has treated two programs as non-recurring when they are, in fact, recurring, *i.e.*, independent research and development ("IR&D") and bid and proposal ("B&P") reimbursements. As the data show, these expenses recur each year.⁶³⁰ They do not cover specific research requested by the government,

⁶³⁰ In fact, the EC reports (correctly) that Boeing received IR&D and B&P reimbursements every year since 1991. Exhibit EC-17, p. 4. The EC concedes that the only other programs for which this is true (FSC/ETI and Wichita IRBs) are recurring. Exhibit EC-17, pp. 3-4; Exhibit EC-13, Table 1.

and the total amount reimbursed is determined by the type of contracts that the contractor has.⁶³¹ They are, therefore, an ongoing, formula-driven reimbursement of a class of costs, rather than reimbursement for particular research programs with defined objectives.

286. Please explain the relationship, if any, between the “benefit” conferred by a financial contribution (in the sense of Article 1.1(b)), the “nature” of a subsidy, and the assessment of the “effect” of a subsidy, pursuant to Articles 5(c) and 6.3? In particular:

(a) Is the “benefit” determination for purposes of establishing the existence of a subsidy under Article 1.1 conceptually and analytically distinct from the assessment of the “effect” of the subsidy contemplated in Articles 5 and 6.3? If so, how?

497. The three concepts referenced in this question – the benefit, nature, and effect of a subsidy – are conceptually distinct from one another. In the first place, “benefit” and “effect” are terms referenced in the SCM Agreement. Consideration of the “nature” of a subsidy, however, is a methodology devised by the Appellate Body to help evaluate whether serious prejudice is “the effect of” an alleged subsidy.

498. Benefit and effect also have different roles within the analysis of an alleged actionable subsidy. The benefit evaluation is used for purposes of establishing the existence of a subsidy under Article 1.1. It is primarily comparative in nature, as it involves an inquiry into whether the financial contribution was provided to the recipient on terms more favorable than would have been available in the market. The analysis generally restricts itself to identifying the financial contribution and comparing its terms to a market analog or “benchmark.”⁶³² The analysis of the “effect” of a subsidy is only undertaken after the existence of a subsidy is determined. The analysis typically considers the subsidy’s impact on the actions of the recipient and through those actions, on the market for the product in question. The “nature” of a subsidy involves an inquiry into its design, structure, and objective to help determine the extent to which any indicia of serious prejudice are the result of the subsidies.

499. These steps are analytically distinct, although related. The determination as to whether a financial contribution confers a benefit focuses on market conditions as of the date of the financial contribution in question. This is a contemporaneous analysis, and developments subsequent to the contribution are irrelevant in determining whether that contribution confers a benefit.⁶³³

⁶³¹ US FWS, paras. 275-282.

⁶³² *Canada – Aircraft (AB)*, para. 157.

⁶³³ The United States notes, however, that subsequent events might eliminate or lessen the benefit, even to the point of extinguishing the subsidy. For example, the recipient could repay the subsidy. The government could also terminate a program before it completed disbursement of the funds it initially planned to disburse, which would lessen the amount of the benefit. (This occurred for many of the DoD and NASA R&D contracts in this dispute.)

500. The nature of the subsidy will then be a factor in evaluating how the subsidy may (or may not) have caused adverse effects. The magnitude of a subsidy measured by the benefit to the recipient may also be an important consideration in assessing its effects, but is not dispositive. For example, a smaller benefit that enabled the launch of a new large civil aircraft model may have a much more significant and longer term effect on supply and, therefore, on the market, than a larger subsidy providing additional cash that did not make any difference to a company's product development or pricing decisions.

501. The United States is submitting a short analysis by Columbia University Professors Joseph E. Stiglitz and Bruce Greenwald on the ways in which different types of subsidies are likely to affect the behavior of the recipient and, therefore, competition.⁶³⁴ The Panel should note that the Stiglitz/Greenwald analysis ties the effects of different types of subsidies to their respective natures. The fundamental points of their analysis are that: (1) subsidies tied to the development, production and/or sale of particular aircraft are supply-creating in nature and, thus, have a direct, significant and lasting impact on competition; and (2) subsidies given to large companies with unfettered access to capital markets that are untied to the development, production and sale of a particular product are unlikely to have significant market effects. It is important to note that the magnitude of a subsidy is not critical to assessing its basic effects under the analysis of Professors Stiglitz and Greenwald. However, the magnitude may come into play in determining the significance of those effects as, all else being equal, the larger the subsidy, the larger its effects.

- (b) *Are there circumstances where the Panel's assessment of the effect of the subsidy pursuant to Articles 5(c) and 6.3 should encompass the market impact of the subsidy; i.e., the effect of the subsidy beyond the effect of the "benefit" (in the sense of Article 1.1(b)) conferred by the financial contribution? If so, on what analytical basis may the Panel undertake such an examination; e.g. would such an examination be based on the "nature" of the subsidy, on the particular counterfactual evaluation conducted as part of the "but for" causation analysis, or on some other basis?*

502. It is difficult to understand how the effect of a "subsidy" could go beyond the effect of the benefit conferred by the financial contribution. It is not clear what other effects could be the effect of the "subsidy" as opposed to the effect of some other measure or some other factor. Accordingly, the analysis of the effect of the subsidy may not go beyond the effects of the that benefit. Article 6.3 allows a finding of serious prejudice only if "the effect of the subsidy" is one of the four conditions described in its subparagraphs. The benefit is what makes the financial contribution a subsidy. To the extent that the terms of financial contribution are no more favorable than those available in the market, by definition, it does not confer a subsidy. The text

⁶³⁴ Statement of Professors Joseph E. Stiglitz and Bruce C. Greenwald, On the Question of the Impact of Subsidies on Supply and Prices in the LCA Market (Jan. 21, 2008) (Exhibit US-1309).

of Article 5, which admonishes Members not to cause adverse effects “through the use of any subsidy,” leads to the same conclusion.

503. In assessing the effects of a subsidy, the Panel should focus on the evidence (as opposed to unsubstantiated assertion) regarding the economic consequences that flow from it, taking full account of the evidence (again as opposed to assertion) relating to (1) its design, structure, and objective, (2) its magnitude, and (3) the way(s) in which the recipient used the benefit in its commercial operations. A “but for” analysis grounded in evidence is one, but not the only, analytical framework that can be used to assess the economic consequences of a subsidy.

295. *The European Communities argues (EC Confidential OS2, paras. 55-56) that, “regardless of background movements in price, and factors which purport to explain those movements – LCA prices would have been higher but for the US subsidies.” How does the United States respond to the suggestion that it is sufficient for the European Communities to demonstrate that the relative prices and sales of Airbus LCA would have been significantly higher but for the alleged subsidies, even if absolute prices and sales were also affected by other factors? Specifically, how should the Panel evaluate the “potential non-attribution factors” as part of an “integrated” analysis of causation in this dispute?*

504. The first response to this question is that it is, in essence, a hypothetical because the EC has not provided *evidence* that the alleged subsidies had a significant effect on Boeing’s prices, much less on Airbus’ prices. The EC’s claim that the alleged subsidies lowered Boeing’s prices is based on two unsubstantiated assertions of fact. The first is that subsidies that reduce marginal costs flow through to prices on a “dollar-for-dollar” basis. The second is that alleged subsidies for basic research provide Boeing with additional non-operating cash flow that the company invested in “aggressive pricing.” As supporting evidence for the first claim, all the EC has provided is a study of the pricing response of motel owners to a tax reduction. Even if this study were relevant to the large civil aircraft market, the United States has shown that it does not support the EC’s “dollar-for-dollar” pass through contention.⁶³⁵ As supporting evidence for the second claim, the EC has relied entirely on a flawed economic model that is itself based on a set of untenable assumptions.⁶³⁶ In other words, there is no credible *evidence* of a link between the alleged subsidies and Boeing’s pricing. Accordingly, there is no basis for the EC’s assertion that, “although other factors might have impacted the absolute level of prices and sales, Airbus prices would still have been significantly higher, and it still would have won significant additional sales and market share, but for the US subsidies.”⁶³⁷

⁶³⁵ US SWS, para. 183.

⁶³⁶ US FWS, paras. 827-862; US SWS, paras. 178-184.

⁶³⁷ EC OS2 (Conf.), para. 55.

505. As to the hypothetical question, it is certainly possible for a Member to demonstrate that prices of its product would have been significantly higher but for alleged subsidies, even if other factors affected sales volume and absolute prices. However, any such demonstration would have to take those other factors into account in some way, and ensure that their effects were not attributed to the alleged subsidies. Otherwise, the party would not have established a *prima facie* case that the indicia of serious prejudice were “the effect of” the alleged subsidies, rather than the effect of some other factor. The Appellate Body in *US – Upland Cotton* made clear that the text of Article 6.3(c) makes it “necessary to ensure that the effects of other factors on prices are not improperly attributed to the challenged subsidies.”⁶³⁸ This textual requirement exists regardless of whether the Panel adopts a “unitary” or “integrated” approach to determining whether the effect of the alleged subsidies is significant price suppression, significant lost sales, or displacement/impedance.

506. Article 6 does not specify a methodology to use for considering other potential causes of serious prejudice as part of a causation analysis. There is certainly no requirement for a separate analytical step to evaluate other potential non-attribution factors. An analysis that takes them into account simultaneously with the effect of the subsidies and in the context of the conditions of competition affecting the market would appear to suffice, as long as it supports a conclusion that the indicia of serious prejudice were the effect of the subsidies, and that the effects of the other factors do not break the “cause and effect” linkage.

507. The critical other causes affecting prices in this dispute are: (1) Airbus’ decision to gain market share by cutting prices on the A320 family and (2) the inferior performance characteristics of the A340, A350 Initial, and A350 Original. The EC’s choice of a “but/for” analysis does not absolve it of the requirement to address these considerations. For example, expectations of passenger revenues and operating costs often limit the amount that airlines are willing to pay for an aircraft, especially one like the A340 with a record of poor operating efficiencies.⁶³⁹ If the operating costs of an aircraft are such that no airline is willing to pay more for it, which was the position of the A340 in the 2004-2006 period, then subsidies to a competitive aircraft will not affect its price. The EC concedes that increasing fuel prices account for some, though not all of [***],⁶⁴⁰ but it has failed to show that the alleged subsidies had *any* contributing effects, much less that they caused significant price suppression.

508. Similarly, any analysis of the effects of the alleged subsidies on technology would have to take into account the evidence that: (1) Airbus devoted too many resources to its A380 program to move as quickly as Boeing did to produce a more efficient mid-size aircraft and (2) Boeing had the resources and commercial impetus to develop the 787 when and how it did even

⁶³⁸ *US – Upland Cotton (AB)*, para. 437.

⁶³⁹ US FWS, paras. 1139-1140, 1144-1146, and 1158; U.S. Comments on EC RPQ1, paras. 254, 278, and 342.

⁶⁴⁰ EC RPQ1, para. 475.

if the programs challenged by the EC had not existed. Thus, the non-attribution factors identified by the United States are relevant to the Panel's analysis of the EC's technology effects causation theory because they establish that the alleged subsidies did not affect the companies' relative levels of technological advancement.⁶⁴¹

509. Thus, even if there is no separate step to inquire whether "other factors" cut the causal link between the alleged subsidies and price suppression, an evaluation of these factors and how they affect competition between Boeing and Airbus is necessary to assess the EC's claims regarding the effects of the alleged subsidies.

296. *The Panel notes that, at para. 270 of the US Comments on the EC's Response to Question 78, the United States presents the Boeing BCA division's 1989-2006 aggregate operating profit figure as \$22.3 billion and its aggregate cash flow figure as \$31.9 billion, while the corresponding figures in Exhibit US-1226 are \$23.935 billion and \$33.439 billion, respectively. Can the United States please explain the discrepancy?*

510. The discrepancy cited in Question 296 resulted from an error in the preparation of the U.S. response to Question 78. The figures provided in paragraph 270 of the U.S. Comments on the EC's response to Question 78 (*i.e.*, \$22.3 billion for BCA's 1989-2006 aggregate operating profit and \$31.9 billion for BCA's 1989-2006 aggregate cash flow) were the product of preliminary calculations, while the corresponding figures presented in Exhibit US-1226 (*i.e.*, \$23.935 billion for BCA's 1989-2006 aggregate operating profit and \$33.439 billion for BCA's 1989-2006 aggregate cash flow) reflect what the United States believed to be finalized calculations based on correct data. No discrepancy should have existed between the two sets of figures.

511. In examining the relevant data in preparing its response to this question, however, the United States has discovered that further corrections are necessary. Exhibit US-1302 contains the revised data in Table 1 and the reason for each revision in Table 2, along with copies of the relevant pages from Boeing's financial reports.⁶⁴² The most significant reasons for these changes were that some of the information in Exhibit US-1226 reflected: (1) data from a Boeing financial report that was later adjusted in a subsequent financial report;⁶⁴³ (2) depreciation data from Boeing's consolidated statement of cash flows rather than Boeing's segment information;

⁶⁴¹ If the NASA aeronautics research programs had not existed, the global aeronautics knowledge base on which both large civil aircraft producers build would have been smaller than it is today, which would have affected Boeing and Airbus equally.

⁶⁴² Revised Comparison of Selected Boeing and BCA Financial Data and Alleged Subsidies: 1989-2006 (Exhibit US-1302).

⁶⁴³ The United States makes these revisions to provide a consistent basis for selecting from multiple data points for a given item. For example, Boeing's 2003 Annual Report states the Boeing Company's 2003 pre-tax profit as \$550 million, whereas the 2005 Annual Report states the Boeing Company's 2003 pre-tax profit as \$500 million. In this situation, Exhibit US-1302 reflects the figure from the 2005 Annual Report.

or (3) a typographical or transcription error. Table 1 in Exhibit US-1302 shows that BCA's 1989-2006 aggregate operating profit is \$22.6 billion, and that BCA's 1989-2006 aggregate cash flow is \$32.1 billion.⁶⁴⁴

512. The revisions and methodology reflected in Exhibit US-1302 should also be reflected where the United States has provided corresponding Boeing financial data in the U.S. Comments on EC RPQ1. Thus:

- the figures in paragraph 270 of the U.S. Comments on the EC Responses to the First Set of Panel Questions should be revised as follows: the BCA operating profit figure should be \$22.6 billion, not \$22.3 billion; the BCA cash flow figure should be \$32.1 billion, not \$31.9 billion; The Boeing Company pre-tax profit figure should be \$34.9 billion, not \$34 billion; and The Boeing Company cash flow figure should be \$58.1 billion; and
- the figures in the table set out in paragraph 292 of the U.S. Comments on EC RPQ1 should be revised as follows: the BCA Revenues figure for 2004 should be \$19,925 million, not \$21,037 million; the BCA Net Earnings from Operations figure for 2004 should be \$745 million, not \$753 million; the BCA Operating Margin figure for 2004 should be 3.74 percent, not 3.58 percent; the BCA Revenues figure for 2005 should be \$21,365 million, not \$22,651 million; the BCA Net Earnings from Operations figure for 2005 should be \$1,431 million, not \$1,432 million; the BCA Operating Margin figure for 2005 should be 6.70 percent, not 6.32 percent.

513. The United States regrets any confusion caused by these revisions. Nevertheless, they do not alter the fundamental conclusion that, "but for" the alleged subsidies, Boeing had more than enough financial wherewithal to develop and price its large civil aircraft as it did.

297. *Please comment on the European Communities' arguments (EC OS2, para. 117) that (i) on the basis of the calculations set forth in Exhibit EC-1334, over the period 1989-2006, The Boeing Company (including McDonnell Douglas for the period 1989-1994) recorded a net decrease in cash and cash equivalents (adjusted for advances) of \$4.2 billion; and (ii) as demonstrated in Exhibit EC-1334, even adjusting for share repurchases made by Boeing between 1989-2006, Boeing's net increase in cash and cash equivalents over that period would have been \$12 billion, "significantly short of the \$19 billion in US subsidies during that period."*

514. Boeing's holdings of "cash and cash equivalents" on January 1, 1989 were \$3.674 billion.⁶⁴⁵ At year-end 2006, the figure was \$6.118 billion, *i.e.*, an increase of \$2.44 billion.⁶⁴⁶

⁶⁴⁴ Revised Comparison of Selected Boeing and BCA Financial Data and Alleged Subsidies: 1989-2006 at Table 1 (Exhibit US-1302).

⁶⁴⁵ The Boeing Company, 1991 Annual Report, Consolidated Statements of Cash Flows, p. 40.

By (1) combining Boeing’s “cash and cash equivalents” data with the McDonnell Douglas data at January 1, 1989, and (2) excluding cash advances for ordered but undelivered aircraft from the calculation, the EC asserts that for the period 1989-2006, Boeing recorded a “net decrease in cash and cash equivalents . . . of \$4.2 billion.” However, as the data in Boeing’s financial statements show, the decrease is entirely a function of the “adjustments” that the EC has made to the Boeing data. The EC’s inclusion of McDonnell Douglas’ January 1, 1989 cash and cash equivalents in its calculation is inappropriate because the issue raised by the EC’s “but for” hypothesis is whether Boeing could have developed and priced its aircraft as it did. McDonnell Douglas’ cash holdings at the beginning of 1989, *i.e.*, eight years before Boeing acquired McDonnell Douglas, are irrelevant to this analysis. The EC’s exclusion of prepayments from change in Boeing’s holdings of the cash and cash equivalents is, similarly, inappropriate because prepayments are, in fact, part of Boeing’s cash holdings.

515. The EC then goes on to assert that *with its adjustments to the Boeing data*, “even adjusting for share repurchases,” Boeing’s net increase in cash and cash equivalents would have been . . . significantly short of the \$19 billion” in subsidies that the EC alleges were given to Boeing. The EC is apparently attempting to show that “but for” the alleged subsidies, Boeing could not have developed and priced its aircraft as it did. The errors in this effort are both multiple and basic.

516. The errors begin with the EC’s point of departure, which is its claim that “but for” the alleged subsidies, Boeing would have had to spend an additional \$19 billion of its revenues to price and develop its aircraft as it did. (The United States has explained that this figure is greatly exaggerated.) The EC then compounds this basic mistake by asserting that Boeing’s ability to self-finance the R&D needed to develop its aircraft was limited to the \$16.1 billion it spent on stock-repurchases *less* the \$4.2 billion decrease in Boeing’s cash and cash equivalents between 1989 and 2006 that the EC mistakenly says occurred.

517. As its financial statements show, far from decreasing, Boeing’s holdings of cash and cash equivalents actually increased by \$2.44 billion between January 1, 1989 and December 31, 2006. It is also true, however, that the change in Boeing’s cash and cash equivalents at two points in time 18 years apart is beside the point insofar as this Panel’s assessment of Boeing’s ability to have self-financed the R&D that the EC alleges to have been subsidized is concerned. In fact, to the extent Boeing’s cash on hand is relevant to the Panel’s analysis, it is the \$6.118 billion year-ending 2006 figure, which shows that had it chosen to do so, Boeing could have spent its December 31, 2006 cash on hand to self-finance its R&D in *addition to* the funds that it could have redirected from share repurchases and other discretionary applications. The fact that Boeing found other uses for its cash in reality says nothing about its ability to have self-financed additional R&D between 1989-2006 from BCA’s operating profits and cash flow in a “but for the subsidies” counterfactual.

⁶⁴⁶ Boeing 2006 Annual Report, Consolidated Statements of Cash Flows, p. 43.

518. On this question, the data are unambiguous. BCA's aggregate 1989-2006 operating profit was \$22.6 billion and its aggregate operating profit plus depreciation/amortization was \$32.1 billion.⁶⁴⁷ Thus, even if one accepts as true the EC's incorrect assertion that U.S. government R&D subsidies to Boeing and McDonnell Douglas from 1989 through 2006 totaled \$16.9 billion, that sum is well below BCA operating profit and cash flow over that same period. Moreover, during 1989 and 2006 Boeing spent \$16.1 billion of its *after tax* income on stock repurchases, as well as billions more in dividend payments which, on a pre-tax basis, far exceeds the \$16.9 billion in alleged R&D subsidies. There is, therefore, no question that Boeing had the resources it needed to self-fund the allegedly subsidized R&D without diverting resources from the other investments in its operations units.

519. The only other alleged subsidy of consequence during the 1989-2006 period is FSC/ETI, with a benefit that allegedly reduced Boeing's federal income tax bill by \$2.2 billion. It is true that "but for" the FSC/ETI program, Boeing's tax bill would have been higher, but it is equally true that if Boeing had self-financed the \$16.9 billion in R&D that the EC claims was provided by NASA and the DOD, both its profits and its federal income tax bill would have been lower. Because elimination of the alleged R&D subsidies would have had a tax-reducing impact comparable to the FSC/ETI program, under a "but for" method of analysis, moving Boeing's \$16.1 billion in post-tax stock repurchases to pre-tax R&D expenses would generate tax savings that would effectively compensate Boeing for the "surrender" of its FSC/ETI benefits.

520. The error of the EC allegations becomes even clearer upon a consideration of alleged subsidies to Boeing and McDonnell Douglas aircraft that the EC admits "do not have any present effects on Airbus."⁶⁴⁸ The EC includes billions of dollars of such alleged subsidies in its total. Removing them would produce amounts 39 percent smaller than the \$16.9 billion in R&D subsidies and \$2.2 billion in FSC/ETI benefits alleged by the EC.

521. The data on Boeing's cash and cash equivalents on January 1, 1989 and December 31, 2006 also require clarification. Boeing's cash and cash equivalents on hand on January 1, 1989 were \$3.674 billion. On December 31, 2006, the figure was \$6.118 billion and on December 31, 2007, it was \$7.042 billion. Those figures include prepayments for undelivered aircraft, but if the question is cash/cash equivalents on hand at two points in time, 18 years apart, those are the correct figures. The fundamental point, however, remains that Boeing's build-up or drawing down of cash and cash equivalents from year to year says nothing about its ability to have financed the R&D that the EC mistakenly alleges was (1) given to Boeing free of charge by the U.S. government, and (2) essential to Boeing's LCA operations.

298. *The United States notes that BCA would share certain productivity gains with customers, while simultaneously increasing its operating margins (US RPQ1, para. 292). Does the*

⁶⁴⁷ The United States discusses this point in more detail in its response to Question 302.

⁶⁴⁸ EC Comments to US RPQ1, para. 227. The United States discusses this point at paragraph 6 above. See also US SWS, para. 176; US Comments to EC RPQ1, paras. 267-268.

United States agree that this suggests that Boeing does use cost reductions to lower its prices? Would it be reasonable for the Panel to surmise that Boeing would reduce its prices in response to a reduction in its costs, at least where Boeing's operating margins could still be increased,?

522. Boeing, like other companies, is in business to maximize the return to its shareholders on their investment over time. Boeing will, therefore, reduce its prices when it is in its economic interests to do so. This means that Boeing's pricing decisions, which look for the optimal or profit-maximizing price, take a number of factors into account, *including*: (1) the pricing of its competitor, Airbus, (2) the strength and elasticity of demand, (3) its expectations regarding future market conditions, (4) its strategic interests in particular sales campaigns, (5) the implications of a price reduction for futures sales and for the residual values of aircraft previously sold, and (6) changes in its product-specific fixed and variable costs, as well as in its general costs.

523. Because costs are only one of the several factors that Boeing considers when it prices its large civil aircraft, it would be wrong for the Panel "to surmise that Boeing would reduce its prices in response to a reduction in its costs." To the contrary, because Boeing would not reduce its prices unless there were a compelling economic reason to do so, the presumption should be that, absent evidence that Boeing's large civil aircraft operations would profit more by reducing prices than by maintaining them, Boeing would *not* reduce its prices in response to a reduction in its costs. In other words, if the other factors mandated a price reduction, but Boeing's costs were rising, it might still conclude that a price reduction was necessary. Conversely, if Boeing's costs were falling but the other factors permitted a price increase, it would likely increase its prices.

524. The average per-aircraft revenues for the 737 and 777 demonstrate this point. Although Boeing engaged in successful cost-cutting throughout the 2001-2006 period,⁶⁴⁹ Boeing's prices did not move consistently downward. Instead, as market conditions permitted, Boeing *raised* its prices. Thus, it is clear that there is no causal linkage between cost reductions and price reductions.

525. In fact, to the extent that there is a cause-and-effect relationship, it worked in the other direction in the 2001-2006 period. Airbus' competitive pricing forced Boeing to reduce prices, which in turn motivated Boeing to become more efficient:

⁶⁴⁹ E.g., Maureen Jenkins, *Getting Lean, Boeing Frontiers* (Aug. 2002), p. 3 (Exhibit EC- 1249) (providing the following example of a benefit from "Boeing's mid-'90s shift" to lean manufacturing techniques: "To date, the 737 program has shaved its flow time by 30 percent, reduced its crane moves by 39 percent, and reduced its needed floor space by 216,000 square feet."); *id.* at 3-4 (quoting Goldman Sachs analyst Howard Rubel after his visit to the 737 and 757 production lines: "Boeing's plan to change the way it manufactures jetlines appears to be delivering results . . . We believe that productivity initiatives adopted through lean manufacturing processes have reshaped the company's learning curve and enabled it to enjoy far less disruptions than planned, especially as it reduces production to match the current market environment. We believe that the company is ahead of its long-term operating plan and that reduced costs can flow into profits.").

“The marketplace is demanding lower prices for our products,” said Ross Bogue, {Boeing} Commercial Airplanes vice president of manufacturing, “and costs need to be below price to run a healthy business. Airbus reduces price points to chase market share to provide jobs, technology, a tax base, and all the other values they are responding to in Europe.”

But, said Bogue – who heads the company’s Airplane Programs and Commercial Aviation Services – in order “to meet and beat them in the marketplace, Boeing must become more and more efficient each day. The way we’ve been able to demonstrate that is through Lean manufacturing.”⁶⁵⁰

526. Thus, it was a deteriorating price situation that compelled the company to a long-term cost cutting effort.

299. *The Panel refers to the graph showing global large civil aircraft demand by total orders from 1970 to 2006 presented at para. 249 of the US Comments on EC RPQ1. Please explain the factors that account for the historically unprecedented increase in demand between 2004 and 2006 and how these factors should be taken into account by the Panel in assessing the European Communities' claims under paragraphs (a), (b) and (c) of Article 6.3?*

527. The unprecedented demand for new large civil aircraft in 2005 and 2006, which followed the 2001-2004 market downturn, is attributable primarily to three factors.

- *First*, strong demand for air travel in emerging markets – particularly those in Asia – and anticipated long-term growth in that demand drove many airlines to expand their large civil aircraft fleets.⁶⁵¹
- *Second*, market liberalization further stimulated demand for new aircraft by enabling the creation of new routes and new airlines, particularly low-cost carriers in Asia.⁶⁵²
- *Third*, sharp increases in fuel costs drove airlines to replace aging aircraft with new fuel-efficient aircraft.⁶⁵³

⁶⁵⁰ Maureen Jenkins, *Getting Lean*, Boeing Frontiers (Aug. 2002) (Exhibit EC-1249).

⁶⁵¹ Boeing Current Market Outlook 2007, pp. 4-5 (Exhibit US-1311); Airbus Global Market Forecast 2007-2026, pp. 6, 27, 42, 56 (Exhibit US-1312).

⁶⁵² Boeing Current Market Outlook 2007, pp. 4-5 (Exhibit US-1311); Airbus Global Market Forecast 2007-2026, pp. 6, 39, 42-43 (Exhibit US-1312).

⁶⁵³ Boeing Current Market Outlook 2007, pp. 4-5 (Exhibit US-1311); Airbus Global Market Forecast 2007-2026, pp. 6, 27, 56, 58 (Exhibit US-1312).

528. As a general matter, strong demand does not prevent subsidies from causing adverse effects. Even in a strong market, a subsidy can be behind a subsidized producer's market share gains or can be instrumental in causing significant price suppression or lost sales. In this case, however, the factors that explain the unprecedented demand in 2005 and 2006 also help *disprove* the EC's causation theories in each of the three "product markets" it identifies.

529. **"100- to 200-seat market":** Airbus was stunningly successful in obtaining A320 orders during the 2005-2006 period. Airbus' 1,661 global A320 orders accounted for 41 percent of the 4,081 total net orders for all large civil aircraft during that period, whereas Boeing's 1,307 global 737 orders accounted for 32 percent.⁶⁵⁴ The A320's sales advantage was even more pronounced in Asia, the region driving the unprecedented levels of demand. Asian customers ordered 787 A320s and 383 737s during 2005-2006, giving Airbus a 67 percent share of single-aisle sales in that region.⁶⁵⁵ Of Airbus' 787 A320 orders from Asian customers, 44 percent came from China and 39 percent came from just four low-cost carriers, AirAsia (100 orders) as well as new Indian airlines IndiGo (100 orders), AirDeccan (60 orders), and Kingfisher (44 orders).⁶⁵⁶

530. Both globally and in Asia, Airbus' record A320 order levels and its substantial market share edge over the 737 belie the EC's theory that the alleged subsidies to Boeing had a material impact on Airbus' ability to sell the A320. As to its price suppression claim, events in Asia also undermine the EC's claim that the alleged subsidies prevented A320 prices [***]. In prior submissions, the United States demonstrated that A320 price levels in 2005 and 2006 are not the result of the alleged subsidies, but rather reflect the ongoing effects of Airbus' decisions to keep production levels at pre-downturn levels throughout the 2001-2004 period and to undercut Boeing 737 prices in order to increase market share.⁶⁵⁷ In the words of an industry expert, "Airbus keeps the {production} tap open wider than Boeing and cuts prices to move airplanes."⁶⁵⁸

531. Particularly relevant in the context of unprecedented demand from Asia are the effects of Airbus' aggressive pricing at AirAsia, where the former 737 operator decided in favor of the A320 in late 2004 and finalized a 60-order deal in 2005.⁶⁵⁹ The effects of Airbus' undercutting were not confined to that initial order. Indeed, as AirAsia indicated in its 2007 Annual Report, Airbus will deliver to the airline scores of additional A320s over many years on terms similar to what Airbus provided in the initial deal:

⁶⁵⁴ Airclaims CASE database, data query as of Jan. 18, 2007.

⁶⁵⁵ Airclaims CASE database, data query as of Jan. 18, 2007.

⁶⁵⁶ Airclaims CASE database, data query as of Jan. 18, 2007.

⁶⁵⁷ US FWS, paras. 1065-1070; US SWS, HSBI Appendix, paras. 57-59.

⁶⁵⁸ Scott Hamilton, *Airbus targets appraisers on values*, *JeTrader* (Jun. 2007) at 12-14 (Exhibit US-277).

⁶⁵⁹ US FWS, para. 1034; US FWS, U.S. Campaign Annex, paras. 110-114; US SWS, HSBI Appendix, paras. 52-54; US OS2 (Conf.), para. 12.

Due to the proven success of the Airbus A320 aircraft, we have increased our aircraft purchase order to 150 firm orders with options to acquire up to a further 50 aircraft. This purchase order effectively secures our growth pipeline up till 2013 *while concurrently locking in the benefits of our original aircraft acquisition agreement.*⁶⁶⁰

532. With low-priced A320s entering into service at AirAsia and elsewhere around the world in 2005 and 2006, and many more scheduled to do so in subsequent years, it is no surprise that airlines seeking to order new single-aisle aircraft in 2005 and 2006 demanded prices that would allow them to compete with airlines that secured low-priced A320s during the 2001-2004 market downturn. This can be seen in the evidence regarding the 2005 campaign at Lion Air, an AirAsia competitor based in Indonesia.⁶⁶¹ These effects of Airbus' price undercutting illustrate the observation made by BCA's Vice President for Revenue Management that, "{w}hen an LCA producer lowers prices at a particular account, there are significant risks that the lower pricing level will spread across the market."⁶⁶²

533. **"200- to 300-seat market":** As in the single-aisle segment, demand for new mid-size aircraft was very strong during 2005 and 2006, driven by growing demand for air travel to, and within, Asia, as well as by rising fuel costs that made it increasingly attractive for airlines to replace older, less-fuel efficient aircraft. The 787 was not the only beneficiary of these trends. Airbus set records for A330 orders in 2005 and 2006 and managed to record more than 100 orders for the A350 Original in 2005 and early 2006, before doubts about Airbus' plans for the program inhibited additional orders.⁶⁶³ Nevertheless, market demand in 2005 and 2006 was greatest for the 787,⁶⁶⁴ the most efficient aircraft available.

534. Boeing's success with the 787 validated its strategic decision in the 2000-2001 period to focus on developing an all-new mid-size aircraft. By contrast, Airbus' strategic decision in 2000 to launch the huge A380 was not similarly rewarded; Airbus received fewer A380 orders in the 2005-2006 period (37 orders) than in 2003-2004 (44 orders).⁶⁶⁵ Because the manufacturer's different strategic decisions from years earlier determined the product lines each manufacturer

⁶⁶⁰ AirAsia 2007 Annual Report, p. 14 (Exhibit US-1313) (emphasis added). More recently, Airbus announced that AirAsia had increased its total commitment to 175 orders, making it the world's largest customer for the A320. Airbus Press Release, *AirAsia to become largest airline customer for A320 aircraft* (Dec. 5, 2007) (Exhibit US-1314).

⁶⁶¹ US SWS, HSBI Appendix, para. 58.

⁶⁶² Statement of Clay Richmond at 4 (Exhibit US-275) (HSBI).

⁶⁶³ Airclaims CASE database, data query as of January 18, 2007.

⁶⁶⁴ Airclaims CASE database, data query as of January 18, 2007.

⁶⁶⁵ Airclaims CASE database, data query as of January 18, 2007. The United States also notes that Airbus received fewer A380 orders in 2005, *i.e.*, prior to the announcement of significant program delays, than in 2003.

could offer in 2005, they explain why Airbus' sales of "200- to 300-seat" aircraft did not benefit from the surge in demand to the same extent as Boeing's 787 sales. Considering this together with the overwhelming evidence demonstrating that the alleged subsidies did not enable Boeing to develop the 787 when, and as, it did, there is no basis for concluding that the alleged subsidies caused serious prejudice to the A330, A350 Original, or A350 XWB.

535. **"300- to 400-seat market":** High jet fuel prices had a dramatic effect on competition between the 777 and A340 in 2005 and 2006. From 2001-2003, Airbus gained significant market share in this segment⁶⁶⁶ and won key A340/777 campaigns because, in the EC's own words, "Boeing could not compete on price."⁶⁶⁷ Jet fuel prices increased significantly in 2004 but were higher still, by large margins, in 2005 and 2006.⁶⁶⁸ This not only gave airlines a compelling incentive to replace older-generation large aircraft that had become much more expensive to operate, it also boosted the two-engine 777's value relative to the four-engine, fuel-inefficient A340, to the extent that Airbus had trouble selling the A340 at any price.

536. Consequently, 777 [***].⁶⁶⁹ The EC concedes that increasing fuel prices account for some, though not all, of [***],⁶⁷⁰ but has failed to show that the alleged subsidies had *any* contributing effects, much less to cause significant price suppression.⁶⁷¹ As for its claims of lost sales and displacement/impedance, the EC does not challenge "many 777 sales where price does not appear to have played the significant role in customers' purchasing decision,"⁶⁷² but, rather, limits its claims to three sales campaigns from 2004 and 2005. In addition to the EC's failure to show that Boeing's pricing in these campaigns would have been any different absent the alleged subsidies,⁶⁷³ it strains credulity to believe that, at a time when high fuel prices were lowering the price airlines were willing to pay for the A340, the alleged subsidies were the "but for" cause of Airbus' losses in these campaigns.

300. *Both parties appear to consider that it is appropriate to assess causation pursuant to Article 6.3 through a "but for" test (EC FWS, para. 1062; US FWS, para. 710). Does the "but for" test proposed by each of the parties constitute a "standard" for causation under Article 6.3, or is it a framework or "methodology" for analysing whether there is a causal link between the alleged subsidies and serious prejudice (compare US FWS, para. 710 with EC Confidential OS2, para. 56)? What are the implications of applying the "but*

⁶⁶⁶ US SWS, HSBI Appendix, para. 62.

⁶⁶⁷ EC SWS, HSBI Appendix, para. 166.

⁶⁶⁸ US FWS, para. 1139.

⁶⁶⁹ US FWS, paras. 1146-1147.

⁶⁷⁰ EC RPQ1, para. 475.

⁶⁷¹ US Comments on EC RPQ1, para. 336.

⁶⁷² EC FWS, Ann. F, para. 3.

⁶⁷³ US FWS, U.S. Campaign Annex, paras. 147-166; US SWS, HSBI Appendix, paras. 66-73.

for” approach proposed by each party to situations where there are several causal factors, each of which is sufficient to cause the serious prejudice?

537. A “but for” test, as the United States understands it, constitutes a “methodology” for analyzing whether there is a causal link between subsidies and serious prejudice, and not a “standard.” The EC used a “but for” methodology to frame its contentions, and the United States adopted a “but for” methodology for much of its rebuttal.⁶⁷⁴

538. In a situation in which alleged subsidies are one among several factors affecting the allegedly subsidized product and the product of the complaining Member, the effects of those other factors may not be attributed to the alleged subsidies. This conclusion arises from the structure and ordinary meaning of Article 6.3. Each of the subparagraphs of that article define serious prejudice in terms of “the effect of” the alleged subsidy. Thus, conditions that are “the effect of” factors other than the alleged subsidies are not a proper basis for a finding of serious prejudice. A panel facing evidence that other factors had such an effect would have an obligation under Article 11 of the DSU to ensure that the effects of factors other than the alleged subsidies did not break the cause and effect relationship between serious prejudice and the subsidies. As the Appellate Body concluded in *US – Upland Cotton*, to reach a finding of price suppression under Article 6.3(c), “it is necessary to ensure that the effects of other factors on prices are not improperly attributed to the challenged subsidies.”⁶⁷⁵ This admonition is plainly inconsistent with the EC contention that a “separate, careful assessment of non-attribution factors” is unnecessary in this dispute.⁶⁷⁶ It is difficult to see how an analysis that is less than careful or that does not properly address the effects of other causal factors would “ensure” non-attribution or satisfy a Panel’s obligation to “make an objective assessment of the facts of the case.”

539. The U.S. response to Question 301 explains that Article 6.3 does not require a “but for” analysis to establish that serious prejudice is the “effect of” the alleged subsidies. The Panel should note that the same logic holds true with regard to ensuring that the effects of other factors are not attributed to alleged subsidies. A party proposing to meet its burden of proof on this issue is free to adopt a “but for” analysis or any other methodology it considers appropriate. The other party may then respond as it sees fit, and the Panel must then evaluate whether, in light of these arguments, the complaining party has met its burden of proof.

540. In the theoretical situation in which a panel concludes that the alleged subsidies and another factor are each sufficient to cause serious prejudice, the panel would have to find that the

⁶⁷⁴ The United States notes that its observations regarding the lack of coincidence between the alleged subsidies and the alleged serious prejudice is not a but/for analysis, but is still relevant to the Panel’s evaluation of the EC claims. US FWS, paras. 929-930, 1056-1058, and 1120-1122; US RPQ1, paras. 221-223 and 226; U.S. Comments on EC RPQ1, paras. 280-281.

⁶⁷⁵ *US – Upland Cotton (AB)*, para. 437.

⁶⁷⁶ EC OS2 (Conf.), para. 53.

complainant had made a *prima facie* case of causation for purposes of Article 6.3. In other words, if the complaining party meets its burden of proof, the responding party does not meet its burden of rebuttal by demonstrating merely that other factors also caused serious prejudice. It must show that the complaining party improperly attributed the effects of those factors to the alleged subsidies, and that a proper attribution breaks the causal link between the alleged subsidies and the evidence of serious prejudice.

541. Therefore, a “but for” test appropriate for this dispute poses three questions. First, did the alleged subsidies shape the commercial (*i.e.*, product development, production, or pricing) decisions of the recipient in the sense that absent, or “but for,” the subsidies, the product development and pricing decisions of the recipient would have been materially different? Second, does the evidence show that those product development, production, or pricing decisions caused adverse effects to the interests of the complaining Member within the meaning of Article 5? And third, if so, does the evidence show that, but for the subsidies, the adverse effects associated with the market behavior of the subsidized competitor would not have occurred? If the answer to the first question is “no,” as the United States has demonstrated is the case in this dispute, the Panel need not reach the remaining two questions.

301. *Please comment on the following arguments: (i) there is no basis in the text of the SCM Agreement for the United States statement to the effect that it “requires” the adoption of a “but for” methodology for determining causation between a subsidy and its alleged effect, and the Panel should not make any findings that would effectively preclude the use of other causation methodologies in other cases, including those involving the aircraft sector (Brazil, Third Party Written Submission, at para. 61); and (ii) the Panel’s causation determination should not depend on whether the alleged subsidies can be traced through a subsidy recipient’s cash flow statements (Brazil, Third Party Written Submission, at para. 66; Third Party Oral Statement, para. 19).*

542. The EC adopted a “but for” causation analysis in attempting to demonstrate that the alleged subsidies cause serious prejudice within the meaning of Articles 5(a) and 6.3 of the SCM Agreement.⁶⁷⁷ In responding to the allegations in the EC first written submission, the United States stated that the EC “concedes” that the “effect of the subsidy” standard in Article 6.3 “requires a ‘but for’ causation test.”⁶⁷⁸ In discussing the EC’s legal argumentation in this way, the United States did not intend to imply that Article 6.3 precludes other causation methodologies. In fact, Article 6.3 does not dictate a particular causation methodology. Therefore, a “but for” approach is not the only, or necessarily the most appropriate, analytical framework for determining the causation element of a serious prejudice claim. For example, an analysis of trends in the magnitude of alleged subsidies, the market share of allegedly affected products, or movements in prices is not a but for analysis, but may still provide evidence relevant to an evaluation of causation.

⁶⁷⁷ EC FWS, para. 1062.

⁶⁷⁸ US FWS, paras. 710.

543. With regard to part (ii) of this question, the text of the SCM Agreement does not *require* the tracing of alleged subsidies through to the recipient’s cash flow statement. However, a party’s framing of its causation argument may *necessitate* consideration of how the alleged subsidies relate to the alleged recipient’s stated cash flows.

544. As Brazil correctly observes, a complaining party may argue that subsidies “free{ } up cash flow of the subsidy recipient for use in lowering prices” and that, if so, “the evidence and methodologies for demonstrating {a} “cash flow” effect are not specified in the text of the SCM Agreement.”⁶⁷⁹ However, this observation indicates only that the parties have flexibility to structure their arguments. If one party’s argument implies an effect that should be observable in the alleged subsidy recipient’s cash flow statement, evidence that the expected effect did not actually occur would certainly be relevant to an evaluation of the credibility of the argument. Nothing in the SCM Agreement prohibits a party from referring to such evidence, and an objective evaluation would necessitate a panel’s consideration of that evidence and any arguments based on it. Thus, Brazil is wrong to state as a general rule that, “the fact that the subsidies cannot be explicitly traced through the subsidy recipient’s cash flow statements should not be determinative of causation.”⁶⁸⁰ If one of the parties makes an argument to which such evidence is relevant, a panel may not simply disregard evidence rebutting that argument.

545. In this dispute, the EC has framed its serious prejudice claims in such a way as to render evidence and argumentation related to Boeing’s cash flows directly relevant. Specifically, the EC argued that certain subsidies had the effect of increasing Boeing’s non-operating cash flow and that, but for that increase, Boeing could not have set prices as it did or developed the 787 in the manner and at the time that it did. Professor Cabral even purported to trace the effect of the alleged subsidies based on invalid assumptions as to how Boeing would invest subsidy funds that were the equivalent of “free cash.” The United States submitted rebuttal evidence demonstrating that the Cabral model failed to support the EC’s cash flow causation theory. In particular, the United States showed that: (1) there was an inverse correlation between the level of alleged subsidies to Boeing and the alleged incidence of “aggressive pricing” by Boeing, and (2) Boeing’s investment decisions would not, in any event, be sensitive to marginal increases in cash flow because the company does not face significant capital constraints, and BCA’s cash flow from operations has been, in fact, more than adequate to cover the pricing and development of its large civil aircraft.

546. Faced with this evidence, the EC attempted in its second written submission to support its cash flow causation theory through an alternative analysis comparing the alleged amount of the subsidies to the profits and debt of the U.S. large civil aircraft industry from 1989 to 2006. This alternative analysis depends on cash flow data that the EC *chose* to submit to the Panel. Accordingly, it was entirely appropriate for the United States to rebut the EC’s alternative analysis by showing that it *fails* to establish the causal link. That is, even under the untenable

⁶⁷⁹ Brazil Third Party Submission, para. 66.

⁶⁸⁰ Brazil Third Party Submission, para. 66.

assumption that the EC's amount-of-the-subsidies calculation is correct, a proper comparison of the amount of the subsidies to Boeing's financial data shows that, but for the alleged subsidies, Boeing's cash flow would have been sufficient to sustain its large civil aircraft operations over the long term.

547. Thus, the relationship between Boeing's cash flow and the alleged subsidies provides a reasonable test of the initial EC assertion that, absent the alleged subsidies, Boeing would not have been able to develop aircraft and price them as it did in the relevant period. It is also a critical element in the EC's alternative argument about Boeing's cash flow. Although the SCM Agreement did not *require* the EC to frame its arguments in this way, now that it has, the Panel has an obligation to consider these "but for" arguments in evaluating whether either party has met its burden of proof.

302. *The Panel refers to paragraph 9 of Exhibit EC-1180 which presents a total "profit before taxes" figure of \$17.484 billion for the "US LCA Industry" over the 1989-2006 period (on the basis of calculations set forth in Tables 1-3 therein). By contrast, the United States contends that over the same period, Boeing's BCA division made an aggregate "operating profit" of \$22.3 billion (US, Comments to EC Response to Question 78 of the Panel's First Questions, para. 270).*

- (a) *Are the discrepancies between these profit figures fully explained by: (i) the inclusion of earnings results of McDonnell Douglas' commercial airplanes division between 1989-1996 in the profit before taxes figures listed at para. 9 of Exhibit EC-1180; and (ii) adjustments for unallocated income and expenses of Boeing and McDonnell Douglas, respectively, as indicated in Table 3 of Exhibit EC-1180? If not, please explain the reasons for the discrepancy of approximately \$4.816 billion in the aggregate profit before taxes figures cited by the parties.*

548. The EC's calculation of the U.S. large civil aircraft industry's profit before taxes, as reflected in paragraph 9 of Exhibit EC-1180, combines the operating income reported by Boeing and McDonnell Douglas for their commercial aircraft businesses and reduces it by an allocated portion of expenses that are captured by both companies only at the corporate level. The discrepancies between the EC's "US LCA Industry" figure and the BCA "operating profit" data provided by the United States in this and other submissions are explained below.

- As noted in the U.S. response to Question 296, the \$22.3 billion figure referenced in paragraph 270 of the U.S. Comments on EC RPQ1, Question 78, reflected a preliminary calculation that should not have appeared in that submission.
- The \$23.935 billion figure in Exhibit US-1226 differs from the EC's "US LCA Industry" \$17.484 billion figure because (1) the EC's figure combines the earnings from operations for the commercial aircraft divisions of Boeing and McDonnell

Douglas from 1989 onward, whereas the \$23.935 billion figure in Exhibit US-1226 combines the corresponding earnings data from 1995 onward, as in 1997, the year of the Boeing/McDonnell Douglas merger, Boeing restated its commercial airplanes earnings for 1995 and 1996 to reflect the combined results of BCA and McDonnell Douglas; (2) the EC and the United States drew BCA earnings from operations data for 1998, 1999, 2001, 2002, 2004, and 2005 from Boeing financial reports from different years; and (3) the EC's figure reflects the allocation of a portion of Boeing and McDonnell Douglas corporate level expenses to their large civil aircraft divisions.⁶⁸¹

- The \$22.559 billion figure in Exhibit US-1302 differs from the EC's "US LCA Industry" \$17.484 billion figure because (1) the EC's figure combines the earnings from operations for the commercial aircraft divisions of Boeing and McDonnell Douglas from 1989 onward, whereas the \$22.559 billion figure in Exhibit US-1302 combines the corresponding earnings data from 1995 onward; and (2) the EC's figure reflects the allocation of a portion of Boeing and McDonnell Douglas corporate level expenses to their large civil aircraft divisions.⁶⁸²

549. The data set out in Exhibit US-1302 also show that, for the company as a whole, Boeing's aggregate 1989-2006 pre-tax profit was \$34.9 billion, which provided ample cushion to cover its corporate-level expenses. As noted, the U.S. calculation of operating income is limited to Boeing's financial data, which from 1995 on includes the costs and revenues associated with sales of McDonnell Douglas large civil aircraft.⁶⁸³

- (b) Which aggregate operating profit figure (i.e. the figure set forth in Exhibit EC-1180 or in Exhibit US-1226) is of most relevance to the Panel's assessment of the European Communities' arguments concerning the overall effect of the alleged subsidies on Boeing's long term commercial behaviour?

550. The aggregate profit figures most relevant to the Panel's assessment of the EC's "but for" adverse effects claim is BCA's operating profit as stated in Exhibit US-1226 and revised in Exhibit US-1302, i.e., not the "US LCA Industry" figure set forth in Exhibit EC-1180. The EC's attribution of an allocated portion of these corporate expenses to Boeing and McDonnell Douglas' large civil aircraft divisions is at odds with the way in which both companies record revenues and expenses at the segment level. More to the point, the EC's profit before taxes calculation does not reflect how Boeing would have addressed the "but for" question the EC

⁶⁸¹ Compare ITR Alternative Assessment, para. 9 and Table 1, with Comparison of Selected Boeing and BCA Financial Data and Alleged Subsidies: 1989-2006, Table 1 (Exhibit US-1226).

⁶⁸² Compare ITR Alternative Assessment, para. 9 and Table 1, with Revised Comparison of Selected Boeing and BCA Financial Data and Alleged Subsidies: 1989-2006, Table 1 (Exhibit US-1302).

⁶⁸³ Revised Comparison of Selected Boeing and BCA Financial Data and Alleged Subsidies: 1989-2006, Table 1 (Exhibit US-1302).

wants the Panel to address in its “alternative assessment” – would Boeing have had the financial wherewithal to develop and price its large civil aircraft as it did “but for” the alleged subsidies.⁶⁸⁴

551. Under the EC’s “but for” hypothesis, the corporate level expenses that the EC has improperly charged to BCA would have continued to be corporate level expenses and would have been paid for out of Boeing’s corporate level revenues. If the Panel determines that Boeing in fact received R&D subsidies that it would otherwise have had to self-finance, and once the Panel determines the magnitude of the subsidies at issue, the question then becomes whether BCA had the means to self-finance the subsidies from its operating income. To answer that question, the United States has provided data from Boeing’s financial statements that aggregated BCA’s operating profit and cash flow (defined as operating profit plus depreciation and amortization).

552. As the data show, the answer is clear. The EC alleges that, taken together, BCA and McDonnell Douglas received \$16.9 billion in “subsidies increasing non-operating cash flow” between 1989 and 2006.⁶⁸⁵ The alleged subsidies attributable to Boeing are, by the EC’s own reckoning, less than \$16.9 billion. In fact, for the reasons explained at length over the course of this dispute, only a tiny fraction of the programs at issue have subsidized Boeing’s large civil aircraft operations and, in any event, the \$16.9 billion figure alleged by the EC bears no relationship to reality. However, even taking the EC assertion as to the amount of the alleged subsidies at face value, BCA’s \$22.6 billion 1989-2006 operating profit was more than adequate to cover the alleged “subsidies increasing non-operating cash flow” that the EC claims were given to Boeing.

309. *Both parties appear to agree that pricing in the LCA market results from the interaction of supply and demand (EC SWS, para. 655; US Comments on EC RPQ1, para. 360). Do the parties consider that Airbus and Boeing each exercise a degree of market power? If so, please explain the nature of that market power (e.g. a monopolist’s power to raise price by restricting output), and how it affects pricing in the LCA market. How is the parties’ position that prices of LCA are determined by the interaction of supply and demand affected by (i) the degree and nature of market power, if any, exercised by each of Airbus and Boeing; and (ii) the strategic nature of competition between Airbus and Boeing?*

⁶⁸⁴ EC SWS, paras. 706-732; ITR Alternative Assessment (Exhibit EC-1180).

⁶⁸⁵ ITR Magnitude Report, Appendix A (Exhibit EC-13). In the above discussion of alleged subsidy amounts during the 1989-2006 period, the United States does not include the roughly \$2 billion that the EC assigns to FSC/ETI and Washington tax measures because, as explained in the U.S. response to Question 297, increasing Boeing’s pre-tax R&D expenses under a “but for” method of analysis would generate tax savings that would effectively compensate Boeing for the “surrender” of any benefits under FSC/ETI and Washington tax measures. In any event, adding the alleged amount of subsidies the EC assigns to FSC/ETI and Washington tax measures to the \$16.9 billion referred to above would not change the conclusion that, absent the alleged subsidies, Boeing would have had the financial wherewithal to conduct its large civil aircraft operations as it did.

553. The large civil aircraft market is presently a duopoly with both Airbus and Boeing holding a significant share of the market and offering a full line of competitive LCA. Airbus and Boeing each therefore possess a degree of market power, meaning that each manufacturer's decisions regarding the supply and pricing of its products have the ability to influence the pricing of the other and, more generally, the market price of large civil aircraft. As a consequence, purchasers typically pit Boeing and Airbus against one another in sales campaigns where one reacts to the other's pricing.

554. That said, the evidence shows that there have been significant differences between the pricing and market strategies of Airbus and Boeing, reflecting both their particular priorities and their different assessments of customer demand. Specifically, the evidence shows that Airbus has sought to capture market share from Boeing, while Boeing's position has generally been defensive and reactive. For instance, during the downturn in customer demand that began in 2001, Boeing lowered its 737 production rate⁶⁸⁶ and attempted to resist lowering 737 prices,⁶⁸⁷ recognizing that price cuts could harm 737 residual values and depress prices throughout the market for years.⁶⁸⁸ By contrast, Airbus kept its production rate virtually constant,⁶⁸⁹ which it achieved by persisting in a strategy of using low prices to switch Boeing operators to the A320.⁶⁹⁰ Thus, Airbus used price to increase its market share, but this caused customers throughout the market to demand lower prices for any single-aisle aircraft, even after demand rebounded in 2005.⁶⁹¹ By early 2005, [***].⁶⁹²

555. It is also significant that any market power held by either company is limited. Neither Airbus nor Boeing has the ability to increase its production or prices to levels not supported by demand. Thus, neither Airbus nor Boeing exercises market power to the extent of possessing the ability to force a customer to accept a producer's price.

312. *How does the United States respond to the European Communities' argument (EC Comments on US RPQ1, para. 414) that, even where the evidence of threat of serious prejudice overlaps with evidence of present serious prejudice, such evidence is offered in support of different legal conclusions, and its probative value must be assessed independently in each context?*

⁶⁸⁶ US FWS, para. 1067.

⁶⁸⁷ US FWS, para. 1029.

⁶⁸⁸ US FWS, para. 1037.

⁶⁸⁹ US FWS, para. 1067.

⁶⁹⁰ US FWS, paras. 1030-1035, 1067-1070.

⁶⁹¹ US FWS, para. 1037.

⁶⁹² U.S. Comments on EC RPQ1, paras. 287 and 292.

556. The United States agrees that evidence of threat of serious prejudice may overlap with evidence of serious prejudice, but that threat of serious prejudice requires the application of a different legal standard and an independent analysis. This is exactly what the EC fails to provide in its cursory threat of serious prejudice analysis. It restates facts noted in its serious prejudice analysis, and then simply asserts that they also cause a threat of serious prejudice. Thus, it neither applies the different legal standard of a threat of serious prejudice nor conducts a truly independent analysis.

313. *Does the United States agree with the European Communities (EC Comments on US RPQ1, para. 416) that nothing in Part III of the SCM Agreement requires a “change of circumstances” to establish threat of serious prejudice, or precludes the coexistence of present serious prejudice and threat thereof?*

557. The United States agrees that the text of Part III of the SCM Agreement does not contain the explicit requirement of a “change of circumstances” that appears in Article 15.7. However, it is difficult to see how, if serious prejudice does not already exist, there could be a threat of serious prejudice without some change in the current situation.

558. In fact, the ordinary meanings of “threat” and “amenaza,” its Spanish counterpart, contain a situation of change. “Threat” means an “indication of the approach of something unwelcome or undesirable,” while its Spanish equivalent, “amenaza,” means “*dar indicios de estar inminente algo malo o desagradable*.”⁶⁹³ In both cases, the relevant term contrasts a current situation with a bad situation that has not yet arrived. Serious prejudice can scarcely “approach” or be a matter only of “*indicios*” if it already exists. The United States notes that this the element of change in the ordinary meaning of threat and *amenaza* is hard to reconcile with the EC’s position that serious prejudice and threat of serious prejudice can coexist. Therefore, a party seeking to prove that they did coexist would bear a heavy burden.

559. If a panel finds that serious prejudice exists, that finding triggers the obligation in Article 7.8 for the subsidizing Member to remove the adverse effects of the subsidy or to withdraw it. At that point, an additional finding of threat of serious prejudice will not change the obligation on the subsidizing Member or the recommendation of the Panel. This is a situation which warrants the exercise of judicial economy. As the Appellate Body found in *Canada – Wheat*,

The practice of judicial economy, which was first employed by a number of GATT panels, allows a panel to refrain from making multiple findings that the same measure is *inconsistent* with various provisions when a single, or a certain number of findings of inconsistency, would suffice to resolve the dispute.⁶⁹⁴

⁶⁹³ US FWS, para. 912, quoting New Shorter OED, p. 3290 (Exhibit US-14) and *Diccionario de la Lengua Española*, p. 136 (Exhibit US-13).

⁶⁹⁴ *Canada – Wheat Exports (AB)*, para. 133 (citations omitted).

That is exactly the situation that would exist if the Panel found the existence of serious prejudice in this dispute. A further finding of threat of serious prejudice would add nothing. Therefore, exercise of judicial economy would be appropriate.

560. In any event, the Panel should note that the EC, in the first set of threat of serious prejudice claims (*i.e.*, those based on future large civil aircraft orders and not argued in the alternative), provides no basis for finding that a threat of serious prejudice exists in the absence of present serious prejudice. Rather, the EC premises its threat claims on the existence of present serious prejudice, and the continuation of that serious prejudice into the future.⁶⁹⁵ It does not suggest that the continuation of current negative trends will imminently result in serious prejudice, or that some imminent change in circumstances will lead to serious prejudice. That is not enough to establish a “threat” of serious prejudice. Further support for the observation that circumstances are unlikely to change for the worse comes from Airbus’ projections that, in 2007, it would deliver more aircraft than Boeing for the fifth straight year and break its 2005 record for aircraft orders.⁶⁹⁶

314. *To what extent is the standard for determining threat of material injury in Article 15.7 relevant to a determination of threat of serious prejudice under Article 5? Specifically, must a “threat of serious prejudice” arise from a “change in circumstances” which is “clearly foreseen and imminent”?*

561. Article 15.7 provides context for Article 5. In regard specifically to the nature of the determination, it confirms the ordinary meaning of the term threat – that there must be a clearly foreseen change in circumstances that will lead to the imminent occurrence of one of the factors of serious prejudice listed in Article 6.3. In its first written submission, the United States noted that the ordinary meaning of “threat” indicated the imminence and foreseeability of some undesirable outcome, and did not include a remote or hypothetical eventuality.⁶⁹⁷ Thus, the ordinary meaning of threat parallels the admonition in Article 15.7 that the material injury – the “undesirable outcome” in that context – must be “foreseen and imminent.”

562. As the United States discussed in its response to Question 313, the ordinary meaning of “threat” implies a change in circumstances, which parallels the language in Article 15.7 indicating that it is a “change in circumstances” that “create{s}” a threat of material injury. Thus, the context provided by Article 15.7 also confirms this aspect of the ordinary meaning of “threat.”

563. Neither Part III nor Article 15.7 specify what conditions would represent a “change in circumstances.” In the U.S. view, a clearly foreseen change in circumstances can arise in one of

⁶⁹⁵ EC FWS, para. 1148.

⁶⁹⁶ Andrea Rothman and Massoud Derhally, *Mideast puts Airbus far ahead of Boeing*, Seattle Times (Nov. 13, 2007) (Exhibit US-1199).

⁶⁹⁷ US FWS, para. 912.

two ways. The first is that serious prejudice does not exist at the time of the evaluation, but the evidence establishes trends in existing conditions for the products of the complaining party that are likely to mature into serious prejudice in the imminent future. This situation is reflected in the continuum identified by the Panel in *US – Upland Cotton*. The worsening trends are the foreseen change in circumstance that will lead to serious prejudice.

564. The second situation is that the facts do not establish the existence of worsening trends with regard to the products of the complaining party. Perhaps they evince a state of “vulnerability.” However, if there is a clearly foreseen change in circumstances that will create a tipping point, plunging those products into serious prejudice, there would be a threat of serious prejudice.⁶⁹⁸

⁶⁹⁸ US RPQ1, paras. 260-261.