

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

**NON-BCI VERSION OF THE
FIRST WRITTEN SUBMISSION OF THE UNITED STATES**
(Revised, with final bracketing)

July 13, 2007

TABLE OF CONTENTS

Introduction 1

I. Procedural Background and Issues 7

 A. The United States Has Cooperated Fully With the SCM Agreement’s Information Gathering Provisions Applicable to the EC’s Claims Regarding U.S. Measures Affecting Trade in Large Civil Aircraft. 7

 B. The Panel Should Deny the EC’s Requests to Treat the Information Submitted by the EC as the “Best Information Available” and to Draw Adverse Inferences With Regard to Factual Matters in Dispute. 9

 C. The EC Request for the Panel to Exercise its Authority Under Article 13 of the DSU is Moot. 11

II. Establishing The Existence of A Subsidy Requires a Demonstration that There Was a Financial Contribution that Conferred a Benefit, and that the Benefit Was Specific to Large Civil Aircraft. 13

 A. A Member Challenging an Alleged Subsidy Must Demonstrate That it Provides One of the Forms of Financial Contribution Defined in Article 1.1(a)(1). 13

 B. A Member Challenging an Alleged Subsidy Must Establish That the Financial Contribution in Question Conferred a Benefit to the Recipient on Terms More Favorable than Those Available to the Recipient in the Market. 16

 1. A benefit exists if the financial contribution is provided on terms better than the recipient could have obtained in the market. 16

 2. The existence of a benefit depends on the effect on the recipient, and not on the cost to the government of providing the financial contribution. . . 17

 3. A financial contribution to one entity may be treated as a subsidy to another, unrelated entity only if the benefit to the recipient “passed through” to the other entity. 18

 C. A Member Challenging an Alleged Subsidy Must Establish That the Benefit Is Specific. 18

III. DoD Research, Development, Testing, and Evaluation (“RDT&E”) Activities Do Not Provide a Subsidy to Boeing’s Large Civil Aircraft. 22

 A. DoD Engages in RDT&E to Develop Technologies for Military Purposes at the Lowest Possible Cost. 24

B.	DoD Purchases of RDT&E Services from Boeing Are Not Actionable Subsidies.	26
1.	DoD’s RDT&E contracts are not a financial contribution.	27
2.	DoD RDT&E contracts do not confer a benefit on Boeing.	32
3.	DoD RDT&E contracting is not specific, because DoD enters into such contracts in a broad range of topics and with a broad range of contractors.	40
C.	The EC’s Arguments About Potential “Dual Use” for Military Technologies Ignores Its Own Evidence of the Military Purpose of the RDT&E Activities at Issue.	42
1.	The EC disregards evidence that the RDT&E projects identified in its submission were military in nature.	44
a.	The DoD contracts as issue underscore their military mission.	44
b.	The evidence on the “general” aeronautics RDT&E projects on which the EC focuses – the DUS&T, Industrial Preparedness research, and composites research – merely reinforces the conclusion that DoD research does not convey an advantage to the production and development of large civil aircraft.	48
c.	The DoD’s RDT&E activity related to military aircraft did not result in research with direct applicability to large civil aircraft.	52
d.	The EC’s own evidence shows that its methodology for estimating the value of Boeing’s RDT&E contracts is inaccurate, and greatly overstates the amount of DoD funds that Boeing received.	54
e.	History shows that DoD RDT&E activities do not create an advantage in the production or development of large civil aircraft.	57
f.	Speculation as to the existence of theoretical “dual uses” for the technology Boeing develops for DoD is irrelevant to the Panel’s analysis of whether DoD’s contracts with Boeing confer a benefit.	58
2.	DoD’s actual purchases from Boeing of RDT&E services that meet the criteria identified by the EC were much smaller than the EC estimates and did not result in research directly applicable to large civil aircraft.	59
3.	Because of concerns about potential ITAR violations, Boeing has a policy against using ITAR-controlled articles on all its civil aircraft and, therefore, used only technology with documented civil origins in its development and production of the 787.	62
a.	Legal Background	62
b.	Boeing procedures for excluding defense articles from large civil aircraft	65

c.	Boeing has taken additional precautions to exclude defense articles and services from the 787 design.	67
D.	DoD RDT&E Personnel and Facilities Do Not Confer Goods or Services Related to Boeing Large Civil Aircraft for Less than Adequate Remuneration.	68
1.	DoD RDT&E personnel do not provide goods or services related to Boeing large civil aircraft, and the EC has failed to cite any evidence to the contrary.	69
2.	The activities of DoD RDT&E personnel do not confer a benefit to Boeing.	70
3.	DoD does not give Boeing access to DoD research facilities for less than adequate remuneration.	70
IV.	NASA R&D	72
A.	Introduction	72
1.	NASA’s aeronautics research is of generally applicability beyond the aerospace sector, and the results are generally available outside the United States.	72
2.	There is no support for the EC assumption that NASA “transferred” \$10.4 billion to Boeing.	79
3.	NASA’s mission to promote “the expansion of human knowledge” brings the results of its research to the world aviation community, and other sectors as well.	82
B.	The Only Payment of Funds to Boeing Under the Programs Targeted by the EC Were Purchases of R&D Services Worth Less Than \$750 Million, Which Do Not Constitute a Financial Contribution under the SCM Agreement.	86
1.	The actual amount that NASA paid Boeing is 1/10th the amount claimed by the EC.	86
2.	NASA’s contracts with Boeing constitute purchases of services, and are thus not financial contributions under the SCM Agreement.	87
3.	The EC’s cursory one-sentence assertion that NASA contracts were “in reality grants to Boeing-MD” fails to meet the EC’s burden of proof. . .	89
4.	Funding provided to other NASA contractors and grantees is not a subsidy to the U.S. large civil aircraft industry.	92
C.	NASA’s Provision of Goods and Services to Boeing Is Always Adequately Remunerated.	93
1.	NASA provides goods and services to Boeing pursuant to Space Act Agreements.	93
2.	NASA provides limited wind tunnel services to Boeing for adequate remuneration.	96
a.	The financial contribution to Boeing from NASA’s provision of wind tunnels is limited to Boeing’s actual use of the facilities. . .	96

	b.	NASA provides wind tunnels to Boeing in exchange for adequate remuneration.	97
	c.	NASA’s provision of wind tunnel services is not specific under Article 2 of the SCM Agreement.	100
	3.	NASA provides any additional goods and services to Boeing for adequate remuneration.	101
	a.	NASA makes only limited provision of non-wind tunnel goods and services to Boeing.	101
	b.	NASA’s provision of goods and services to Boeing is for adequate remuneration.	102
	D.	“Institutional Support” Costs Are Incurred by NASA, for NASA; They are Not a Financial Contribution and Do Not Confer a Benefit to Boeing.	104
V.		Independent Research and Development (“IR&D”) and Bid and Proposal (“B&P”) Reimbursements Under DoD and NASA Contracts Do Not Confer a Subsidy.	107
	A.	IR&D and B&P are Factors Used to Determine the Price That a U.S. Government Agency Pays for Certain Acquisitions of Goods and Services.	107
	B.	The EC Has Not Met its Burden of Proof to Establish That the Inclusion of IR&D and B&P in the Cost Calculation for Cost-Based Contracts is a Grant.	111
	C.	The Inclusion of IR&D and B&P in the Cost Calculation for Cost-Based Contracts Does Not Confer a Benefit.	112
	D.	The EC Has Not Met Its Burden of Proof to Demonstrate that Inclusion of IR&D in the Calculation for Boeing’s Cost-Based Contracts Conferred a Benefit to Boeing Large Civil Aircraft.	113
	E.	The EC Has Not Met its Burden of Proof That the Inclusion of B&P Costs in the Calculation for Cost-Based Contracts Conferred a Benefit to Boeing Large Civil Aircraft.	115
	F.	The Inclusion of IR&D and B&P Costs in the Calculation for Cost-Based Contracts is Not Specific.	117
	1.	The EC has not met its burden of proof that the reimbursement of IR&D Costs under U.S. government cost-based contracts conferred a benefit to Boeing large civil aircraft.	118
	2.	The EC has not met its burden of proof that reimbursement of B&P costs under U.S. government cost-based contracts conferred a benefit to Boeing large civil aircraft.	119
VI.		The Treatment of Patent Rights, Data Rights, and Trade Secrets Under U.S. Government Contracts Does Not Confer a Subsidy.	121

A.	The Retention of Patent Rights by Government Contractors is Not a Financial Contribution, Does Not Confer a Benefit, and is Not Specific.	122
1.	The patent rights assigned to private parties under contracts with DoD or NASA are not a contribution, financial or otherwise, because the private parties held those rights in the first place.	122
2.	The retention of patent rights by a government contractor arises from a contract subject to an arm’s length negotiation between the government and the contractor and, accordingly, conveys no benefit.	126
3.	The retention of patent rights by government contractors is not specific because it is generally available, and is not restricted to an enterprise or industry or group of enterprises or industries.	128
B.	NASA and DoD Protection of Trade Secrets is Not a Financial Contribution, Does Not Convey a Benefit, and is Not Specific.	131
C.	The Allocation of License Rights to Data Under NASA and DoD Contracts is Not a Financial Contribution, Does Not Convey a Benefit, and is Not Specific.	133
VII.	U.S. Department of Commerce Advanced Technology Program	137
A.	Program Description	137
B.	The ATP Projects at Issue	142
C.	The ATP Funding Received by Boeing Does Not Constitute an Actionable Subsidy Under the SCM Agreement.	147
VIII.	The U.S. Department of Labor Grant to Edmonds Community College Was Not a Subsidy to Boeing.	153
IX.	FSC/ETI Is a Subsidy, But Boeing Has Stated that It will Not Claim Benefits From This Subsidy After 2006.	159
X.	The Washington State Tax Measures	161
A.	Background on The State of Washington’s Tax System	161
B.	The Measures At Issue Are Not Subsidies to Boeing.	164
1.	B&O tax reduction	165
a.	The B&O tax reduction provides no financial contribution to Boeing.	167
b.	The B&O tax reductions of other unrelated aerospace manufacturers do not pass through to Boeing.	175
c.	The B&O tax rate reduction is not specific to Boeing or to aerospace manufacturing.	180
2.	B&O tax credits	181

	a.	The three tax credits	181
		i.	Preproduction development 181
		ii.	Computer software and hardware 182
		iii.	Property taxes 182
	b.	Legal analysis	183
	3.	Sales and use tax exemptions	184
		a.	Computer hardware, peripherals, and software 185
		b.	Construction services and equipment 186
	4.	Leasehold excise tax exemption	187
	5.	Property tax exemptions	188
	6.	City of Everett B&O tax rate reduction	189
XI.		The Infrastructure and Other Measures Referenced in the Washington State Project Olympus Master Site Agreement Are Not WTO-Inconsistent Subsidies.	192
	A.	Road Infrastructure Improvements	192
	B.	Port of Everett	199
		1.	Rail barge transfer facility 199
		2.	South Terminal expansion 200
		C.	Utilities 201
	D.	Waiver of 747 Large Cargo Freighter Landing Fees	203
	E.	Project Coordinators	204
	F.	Litigation Costs	206
	G.	Tax Measures for the 747 Large Cargo Freighter	207
	H.	Job Training Incentives: Employment Resource Center and Workforce Development Program	207
	I.	“Make Whole” Provision of the Master Site Agreement	209
XII.		The State of Kansas’ Tax Measures Are Not Actionable Subsidies.	210
	A.	City of Wichita Industrial Revenue Bonds (IRBs) Are Not Actionable Subsidies.	210
		1.	The IRBs are not a financial contribution, as the City of Wichita is not foregoing revenue on personal property. 211
		2.	IRBs are not specific and thus not an actionable subsidy. 212
		a.	Wichita IRBs are broadly available and, therefore, de jure non- specific. 212

b.	Consideration of the “other factors” referenced by the EC does not undermine the conclusion under Article 2.1(c) that the Wichita IRBs are not de facto specific.	214
i.	Boeing’s percentage of IRBs is not disproportionate.	215
ii.	Boeing’s purchase of its own IRBs does not show improper exercise of government discretion.	216
iii.	Terms of abatement and denial of health club application do not show specificity.	217
3.	Any IRB benefit to Spirit – an independent and unrelated company – did not “pass through” to Boeing.	219
a.	Future benefits to Spirit were not assured.	220
b.	The amount of future benefits to Spirit was uncertain.	221
c.	Long-term supply contract does not demonstrate pass-through.	221
d.	The EC’s economic analysis on pass-through is flawed.	222
4.	The EC has distorted the amount of tax savings from the IRBs.	222
B.	Kansas Development Finance Authority (KDFA) Bonds Issued to Spirit – an Independent and Unrelated Company – Are Not Actionable Subsidies To Boeing	224
1.	Spirit’s purchase price for the Wichita Plant did not reflect the value of the KDFA financing; the possible future benefits to Spirit were uncertain at time Boeing sold the Wichita assets.	224
2.	The amount of any possible future benefits was also unknown.	225
3.	The EC bases its pass-through allegation on a flawed economic analysis.	226
4.	KDFA bonds are not a specific subsidy.	226
XIII.	Illinois Corporate Relocation Program	227
A.	Corporate Headquarters Relocation Act: Relocation Expenses	227
B.	EDGE State Income Tax Credit	230
C.	Property Tax Abatements	233
D.	Lease Termination	236
XIV.	Allegedly Export-Contingent Subsidies	237
A.	The Measures Found in HB 2294 Are Not Prohibited Export-Contingent Subsidies.	237
XV.	The Programs Identified by the EC Did Not Cause Adverse Effects to EC Interests	243
A.	Introduction	243

B.	Analytical Framework and Analysis Common to All EC Adverse Effects Claims	251
1.	To satisfy Article 6.3, the complaining party must establish that in the absence of the subsidies in question, serious prejudice would not have occurred, and that indicators of the serious prejudice are not the result of other factors.	252
2.	Discerning the effects of a subsidy under Article 6.3 involves an analysis focusing on the nature of the subsidies, including their structure, design, and operation	253
a.	DoD RDT&E contracts with Boeing.	255
b.	NASA R&D contracts with Boeing.	256
c.	DOC ATP research grants.	256
d.	Provision of goods and services in the form of NASA and DoD facilities	257
e.	Provision of services by NASA and DoD personnel	257
f.	IR&D	257
g.	B&P	258
h.	NASA and DoD contract clauses regarding patent rights, data rights, and trade secrets	258
i.	FSC/ETI	259
j.	B&O tax	260
k.	City of Wichita IRBs	260
l.	KDFA bonds	260
m.	Washington State infrastructure and training programs	261
n.	Illinois corporate headquarters relocation program	261
o.	Department of Labor grant to Edmonds Community College	261
3.	An aggregated analysis of the effects of subsidies is appropriate only if the subsidies in question have a sufficient nexus so that their effects manifest themselves collectively.	262
a.	The legal standard	262
b.	The Panel should aggregate the programs at issue into four groups – tax reduction programs, contractual research payments, government facilities and personnel, and other programs – and analyze the effects of each group separately.	263
4.	The allegedly subsidized product, the EC like product, the EC affected product, and the reference period.	269
a.	The EC claims that the alleged subsidies benefitted the entire U.S. large civil aircraft industry, which consisted of seven aircraft families during the period covered by the EC claims.	269
b.	The SCM Agreement and DSU afford a complaining party flexibility in structuring its prima facie case, so the Panel may accept the EC’s division of the market into five “segments” as the starting point of its analysis, even though that division does not comport with the facts.	270

c.	The three-year “reference period” proposed by the EC fails to take account of the conditions of competition in the large civil aircraft market.	274
5.	The EC has immensely overstated the magnitude of the alleged subsidies, both in aggregate and on a per-aircraft basis.	276
a.	The EC has systematically exaggerated and misstated the amount of the alleged subsidies to Boeing.	276
b.	The EC’s magnitude analysis is unreliable.	278
c.	The EC’s definition of “competitive sales” is out of touch with commercial reality.	280
6.	The EC analysis based on the Cabral report greatly overstates the “price effects” of the alleged subsidies by relying on assumption that are contrary to fact and a methodology that ignores conditions in the large civil aircraft industry.	282
a.	The EC has provided no support for its contention that Boeing would lower its prices by any reduction in its taxes.	282
b.	The Panel should disregard Prof. Cabral’s economic analysis.	283
(i)	The Cabral analysis relies on the assertion that Boeing faces constraints on its access to capital, which is demonstrably untrue and contradictory to the relevant economic literature.	285
(ii)	Boeing’s cash flow statements disprove Professor Cabral’s central thesis, namely that “non-operating cash flow” drives Boeing’s investment decisions.	287
(iii)	The Cabral Report erroneously treats the alleged subsidies as the equivalent of cash to Boeing.	288
(iv)	The Cabral Report unrealistically assumes that Boeing will always maintain the same division between dividends and investments, without regard to external conditions.	288
(v)	The Cabral Report’s allocation of alleged subsidies to aggressive pricing and product development depends on an obvious faulty of analysis	289
(vi)	The Cabral Report’s assumption that Boeing has only two “investment options” – “aggressive pricing” and “product development” ignores Boeing’s actual uses of its cash flow.	290
(vii)	The factual assumptions regarding the production and sale of large civil aircraft that Professor Cabral has fed into his model are demonstrably false.	290
(viii)	Professor Cabral’s quantification of the effects of the alleged subsidies is invalid because its relies on misplaced assumptions and false assertions of fact.	295
(ix)	The Cabral Report conclusions fail a real-world test.	295

	c.	The Panel should disregard the per-plane “price effects” or “price reduction” calculations based on the numerical output of the Cabral Report.	296
7.		The EC’s assertions regarding the nature of the alleged subsidies do not support its arguments that they had an effect on prices.	297
8.		Considerations in evaluating whether the effect of alleged subsidies is significant price suppression.	300
	a.	To establish the existence of price suppression, the complaining party must demonstrate that prices for the product as a whole are lower than one would expect them to be.	300
	b.	Given the product definitions advanced by the EC, it is not possible to reach meaningful conclusions about price suppression with regard to individual third country markets.	301
	c.	There is no such thing as a “campaign market.”	303
	d.	For causation with regard to claims under Article 6.3(c), the EC must demonstrate that in the absence of subsidies, aircraft prices would have increased significantly, or would have increased by significantly more than was in fact the case.	304
	e.	The complaining party must establish that price suppression is significant relative to the product and market under consideration.	304
	f.	Since producers and purchasers agree on prices at the time of order, data based on orders form the proper basis for an analysis of price suppression.	305
9.		Considerations in evaluating whether the effect of alleged subsidies is significant lost sales	305
	a.	A lost sale is one in which the product of the complaining party “might” have taken the sale, but did not.	306
	b.	A lost sale is the “effect” of subsidization alleged by the EC only if, but for the alleged subsidization, Airbus would have taken the sale.	306
	c.	Since the customer decides whether to buy from a particular producer at the time of order, order data are the proper basis for an analysis of price suppression.	307
10.		Considerations in evaluating whether the effect of subsidies is displacement/impedance of imports of a like product into the market of the United States or a third country member	308
	a.	As Article 6.3(a) and (b) address displacement or impedance by imports or exports, data showing orders of the allegedly subsidized product and like product are not relevant.	309
	b.	For a displacement and impedance claim, each third country is not necessarily a separate market in and of itself.	310
	c.	Any displacement or impedance must rise to the level of “serious” prejudice to satisfy Article 6.3(a) or (b).	311

11.	To establish the existence of a threat of serious prejudice, the complaining party must establish that the occurrence of one of the serious prejudice factors is clearly foreseen and imminent.	311
C.	Alleged Subsidies to the 787 Did Not Cause Serious Prejudice to EC Interests With Regard to the A330, the A350 Original, or the A350 XWB.	313
1.	Boeing developed the 787 when and how it did because Boeing forecast that the greatest growth would be in point-to-point traffic.	314
2.	Airbus developed the A350 when and how it did because its forecasts emphasized growth in demand for very large aircraft, and once it started on the A380, the need to concentrate on that program prevented serious work on a genuinely new aircraft family.	315
3.	There is no coincidence in time between the alleged subsidies and the alleged serious prejudice to EC interests.	318
4.	The alleged subsidies did not have the knowledge effects alleged by the EC.	319
a.	Key 787 technologies are generally available in the commercial marketplace.	320
b.	Boeing and its supplier-partners’ innovation – and not NASA R&D – “enabled” the 787.	323
c.	The magnitude and nature of the alleged subsidies confirm that NASA R&D did not cause serious prejudice in the form of “technology effects.”	326
d.	DoD R&D is not technologically relevant to large civil aircraft, and in any case is not on the 787.	328
5.	The alleged subsidies did not have price effects on the 787, as the EC claims.	330
a.	The nature of the alleged subsidies would not give them any effect of the price of the 787.	331
b.	The Panel should place no weight on the EC’s product-specific price effect calculations, which are doubly erroneous, as they start with artificially high subsidy magnitude and derive a price effect based on Prof. Cabral’s faulty conclusions.	333
c.	The magnitude of the benefit conferred by these programs is too small to have caused serious prejudice.	334
6.	Factors other than the alleged subsidization explain any indication of serious prejudice experienced with regard to the A330, A350 Original, and A350 XWB, and break any causal link with subsidization.	334
7.	The programs identified by the EC did not cause price suppression of the A330, the A350 Original, or the A350 XWB.	338
a.	There was no reason to expect A330 prices to be higher than they actually were in the 2004-2006 period, and if any price suppression did occur, it was the result of factors other than the alleged subsidies.	338
b.	Prices for the A350 Original and A350 XWB were not suppressed.	340

8.	The programs identified by the EC did not cause lost sales of the A330 or the A350 Original.	343
9.	The programs identified by the EC did not displace or impede imports of A330 or A350 Original into the United States or exports of those aircraft to a third country market.	345
10.	The programs identified by the EC do not cause a threat of serious prejudice to EC interests with regard to the A330 or A350 XWB-800.	348
	a. The EC has not made a prima facie case that the alleged subsidization causes a threat of serious prejudice to future orders of A330 and A350 XWB.	349
	b. The EC has not made a prima facie case that alleged subsidization causes a threat of serious prejudice to future deliveries of A330 and A350 XWB.	350
D.	Alleged Subsidies to the 737 Did Not Cause Serious Prejudice to EC Interests With Regard to the A320	352
1.	Airbus' decision to undercut Boeing at key low-cost carriers is responsible for low prices for the A320.	353
2.	The nature of the alleged subsidies did not give them any effect of the price of the 737.	358
	a. The nature of the programs alleged to have conferred subsidies makes them unlikely to affect the price of the 737.	358
	b. The EC and Professor Cabral fail to prove that the alleged subsidies cause price effects.	360
	c. The magnitude of the benefit conferred by these programs is too small to have caused serious prejudice.	362
	d. There is no coincidence in time between the alleged level of subsidization and the alleged serious prejudice to the EC's interests.	362
	e. There is no coincidence in time between the alleged annual price effects and the alleged serious prejudice.	363
3.	Factors other than the alleged subsidization explain any indication of serious prejudice experienced with regard to the A320 and break any causal link with subsidization.	365
4.	The programs identified by the EC did not cause price suppression of the A320, as there was no reason to expect A320 prices to be higher than they actually were from 2004 to 2006, and any price suppression that did occur was the result of factors other than the alleged subsidies.	366
	a. Airbus' pricing and production practices prevented A320 prices from rising in line with increased demand.	366
	b. Boeing's 737 pricing in 2005 was a reaction to Airbus undercutting, not the initiation of a "price war."	368
	c. Campaign-specific evidence, much of it the EC's own, demonstrates that the alleged subsidies have not suppressed A320 prices.	369

5.	The programs identified by the EC did not cause lost sales of the A320.	371
6.	The programs identified by the EC did not displace or impede exports of the A320 into any third country “markets.”	374
7.	The programs identified by the EC do not cause a threat of serious prejudice to EC interests with regard to the A320.	377
	a. The EC has not made a prima facie <i>case that the alleged subsidization causes a threat of serious prejudice to future orders of the A320.</i>	378
	b. The EC has not made a prima facie <i>case that alleged subsidization causes a threat of serious prejudice to future deliveries of A320.</i>	378
E.	Alleged Subsidies to the 777 Did Not Cause Serious Prejudice to EC Interests With Regard to the A340 or the A350 XWB	379
1.	Product development choices made by Airbus and Boeing – and not the supposed price effects of alleged subsidies – are responsible for any problem faced by the A340.	381
2.	There is no coincidence in time between the alleged subsidies and the alleged serious prejudice to EC interests.	382
3.	The nature of the alleged subsidies did not given them any effect on the price of the 777.	383
	a. The nature of the alleged subsidies would not give them effects of the price of the 777.	384
	b. The magnitude of any benefit that may have been conferred by these programs is too small to have caused serious prejudice.	386
	c. The Panel should place no weight on the EC’s product-specific price effect calculations, which are doubly erroneous, as they start with artificially high subsidy magnitude and derive a price effect based on Prof. Cabral’s faulty conclusions.	386
4.	Factors other than the alleged subsidization explain any indication of serious prejudice experienced with regard to the A340 and break any causal link with subsidization.	388
5.	The programs identified by the EC did not cause price suppression of the A340, as there was no reason to expect A340 prices to be higher than they actually were from 2004 to 2006, and any price suppression that did occur was the result of factors other than the alleged subsidies.	390
6.	The programs identified by the EC did not cause lost sales of the A340.	393
7.	The programs identified by the EC did not displace or impede exports of the A340 into a third country market.	395
8.	The programs identified by the EC do not cause a threat of serious prejudice to EC interests with regard to the A340 or A350 XWB.	399

a.	The EC has not made a prima facie <i>case that the alleged subsidization causes a threat of serious prejudice to future orders of the A350 XWB</i>	400
b.	The EC has not made a prima facie <i>case that alleged subsidization causes a threat of serious prejudice to future deliveries of A340</i>	401
F.	The 1992 Agreement Does Not Create Legal Obligations under the SCM Agreement.	402
1.	The 1992 agreement is not a “covered agreement” and is therefore outside the Panel’s terms of reference	403
2.	Article 31.3(c) of the Vienna Convention is irrelevant, because the EC does not invoke the 1992 Agreement to interpret a covered agreement.	404
Conclusion	405

TABLE OF REPORTS AND OTHER DOCUMENTS

Short Form	Full Citation
<i>Australia – Leather</i>	Panel Report, <i>Australia – Subsidies Provided to Producers and Exporters of Automotive Leather</i> , WT/DS126/R, adopted 16 June 1999
<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>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/AB/R
<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 21.5 (Panel)</i>	Panel Report, <i>Canada – Measures Affecting the Export of Civilian Aircraft, Recourse by Brazil to Article 21.5 of the DSU</i> , WT/DS70/RW, adopted 9 May 2000, as modified by the Appellate Body Report, WT/DS70/AB/RW
<i>Canada – Aircraft 21.5 (AB)</i>	Appellate Body Report, <i>Canada – Measures Affecting the Export of Civilian Aircraft, Recourse by Brazil to Article 21.5 of the DSU</i> , WT/DS70/AB/RW, adopted 21 July 2000
<i>Canada – Aircraft II (Panel)</i>	Panel Report, <i>Canada – Export Credits and Loan Guarantees for Regional Aircraft</i> , WT/DS222/R, adopted 28 January 2002
<i>Canada – Autos (AB)</i>	Appellate Body Report, <i>Canada – Certain Measures Affecting the Automotive Industry</i> , WT/DS139/AB/R, WT/DS142/AB/R, adopted 19 June 2000
<i>Diccionario de la Lengua Enpañola</i>	Real Academia Española, <i>Diccionario de la Lengua Española, vigésima segunda edición</i> (2001)
<i>EEC – Airbus</i>	GATT Panel Report, <i>German Exchange Rate Scheme for Deutsche Airbus</i> , 4 March 1992, unadopted, SCM/142
<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
ECFWS	First Written Submission by the European Communities, <i>European Communities – Measures Affecting Trade in Large Civil Aircraft</i> , para. 716 (Feb. 9, 2007)

<i>Indonesia – Autos</i>	Panel Report, <i>Indonesia – Certain Measures Affecting the Automobile Industry</i> , WT/DS54/R, WT/DS55/R, WT/DS59/R, WT/DS64/R, adopted 23 July 1998
<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>Thailand – H-Beams (AB)</i>	Appellate Body Report, <i>Thailand – Anti-Dumping Duties on Angles, Shapes and Sections of Iron or Non-Alloy Steel and H-Beams from Poland</i> , WT/DS122/AB/R, adopted 5 April 2001
<i>US – Cotton Subsidies (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 – Cotton Subsidies (AB)</i>	Appellate Body Report, <i>United States – Subsidies on Upland Cotton</i> , WT/DS267/AB/R, adopted 21 March 2005
<i>United States – FSC (Panel)</i>	Panel Report, <i>United States – Tax Treatment for “Foreign Sales Corporations,”</i> WT/DS108/R, adopted 8 October 1999, as modified by the Appellate Body Report, WT/DS108/AB/RW
<i>United States – FSC (AB)</i>	Appellate Body Report, <i>United States – Tax Treatment for “Foreign Sales Corporations,”</i> WT/DS108/AB/RW, adopted 20 March 2000
<i>United States – FSC 21.5 (AB)</i>	Appellate Body Report, <i>United States – Tax Treatment for “Foreign Sales Corporations,” Recourse by the European Communities to Article 21.5 of the DSU</i> , WT/DS108/AB/RW, adopted 14 January 2002
<i>US – FSC 22.6</i>	Decision of the Arbitrator, <i>United States – Tax Treatment for “Foreign Sales Corporations”; Recourse to Arbitration by the United States under DSU Article 22.6</i> , WT/DS108/ARB, circulated 30 August 2002
<i>US – Gasoline</i>	Report of the Appellate Body, <i>United States – Standards for Reformulated and Conventional Gasoline</i> , WT/DS2/AB/R (29 April 1996)
<i>US – Hot-Rolled Steel (AB)</i>	Appellate Body Report, <i>United States – Anti-dumping Measures on Certain Hot-Rolled Steel Products from Japan</i> , WT/DS184/AB/R, adopted 23 August 2001

<i>US – Lead Bars (AB)</i>	Appellate Body Report, <i>United States – Imposition of Countervailing Duties on Certain Hot-Rolled Lead and Bismuth Carbon Steel Products Originating in the United Kingdom</i> , WT/DS138/AB/R, adopted 7 June 2000
<i>US – Lumber CVD (AB)</i>	Report of the Appellate Body, <i>United States – Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada</i> , WT/DS257/AB/R (19 January 2004)
<i>US – Softwood Lumber Dumping (Panel)</i>	Panel Report, <i>United States – Final Dumping Determination on Softwood Lumber from Canada</i> , WT/DS264/R, adopted 31 August 2004, as modified by the Appellate Body Report, WT/DS264/AB/R

INTRODUCTION

1. Immediately after the United States filed its request for consultations challenging the European Communities' ("EC") massive subsidies to Airbus, indeed later in the exact same day, the EC filed its consultation request in this dispute. The EC made no secret¹ of the fact that it was only filing its request in order to respond to the U.S. challenge.² The EC has also been clear that it expects the WTO examination of its programs to lead to "assured embarrassment."³ In this light, the purpose of this dispute seems plain – to divert attention from the EC's "embarrassment" by creating the appearance that the United States subsidizes large civil aircraft even more than do the EC and its Member States. By systematically exaggerating and misstating the amounts involved in this companion dispute and inaccurately characterizing the nature of the programs at issue, the EC has sought to amass a subsidy allegation that would appear quite large.

2. The greater part of the EC's allegations, representing nearly three-quarters of the value it attributes to the challenged U.S. programs, consists of research that Boeing conducted for the U.S. government, or that the United States conducted for the benefit of the broader public. The EC argues that research programs run by the Department of Defense ("DoD"), the National Aeronautics and Space Administration ("NASA"), and the Department of Commerce ("DOC") conveyed a specific subsidy with regard to the production of large civil aircraft (often abbreviated as "LCA") by The Boeing Company ("Boeing"). However, in mounting its attacks on these programs, the EC neglects a number of documented truths that disprove its claims:

- Both DoD and NASA pay Boeing under contracts to conduct research services on behalf of the government. That makes these transactions purchases of services, which are not a financial contribution for purposes of the SCM Agreement and, therefore, not a subsidy. To avoid this conclusion and to shoehorn its claims into the SCM Agreement, the EC simply asserts that the contracts are actually "grants," a statement thoroughly at odds with the evidence.
- Through these contracts, DoD and NASA obtain valuable research and development services to further legitimate governmental missions – in the case of DoD, to support U.S. national defense objectives, and in the case of NASA, to improve the safety and efficiency of flight and to promote general knowledge of aeronautics.
- U.S. export control regulations make it impossible as a practical matter to use technology developed for military purposes on large civil aircraft. NASA

¹ See for example the October 1, 2004 report in AFX "EU, US fail to reach agreement on Airbus subsidies; US says may lodge WTO case" in which European Commission spokesman in Washington, Anthony Gooch, is quoted: "The EU spokesman said Europe would make an "immediate and prompt" response to a US complaint to the WTO."

² It is difficult to understand how the EC considered that its actions were consistent with the requirement in Article 3.10 of the DSU that complaints and counter-complaints in regard to distinct matters are not to be linked.

³ See October 4, 2004 report in Bloomberg "Boeing, Airbus Aid May Violate Trade Rules, EU Says" quoting from an EC memo.

research is generally too early stage and too widely disseminated to create a competitive advantage.

- Composites technology (which the EC asserts was bestowed on Boeing by NASA and DoD) was widely available before the launch of Boeing's 787, and Airbus frequently boasted of its leadership in the field, suggesting that early NASA research on composites bestowed no special technological advantage that enabled Boeing to launch the 787 when it did.
- As Airbus itself admits, its current problems are entirely the consequence of its own product development choices (to pursue a very large, hub-to-hub aircraft, rather than a mid-sized point-to-point aircraft); its own production difficulties with the A380, the largest and most costly aircraft ever developed; its decision to try to market an incomplete revision of an old aircraft as a new product (the "A350 Original"); and currency movements.

These facts lead to one conclusion – that in the absence of the government programs, Boeing would have made the same product development choices and pricing decisions. In any event, the EC shows nothing about the nature of the government programs, or the state of Boeing's finances or market behavior, to suggest that the alleged subsidies altered Boeing's behavior in any way.

3. These facts, and this conclusion, are fatal to the EC's claim, as they demonstrate that the EC has failed to satisfy the four requirements for establishing the existence of an actionable subsidy: (1) a financial contribution, (2) that conveys a benefit, (3) specific to an enterprise or industry or group of enterprises or industries, (4) that causes adverse effects to the interests of the EC.

Claims of subsidy

4. The DoD programs that the EC caricatures as "grants" were, in fact, payments by the government to Boeing for military research and development services, to develop weapons and other systems for use by the U.S. armed forces. These were not subsidies, as purchases for services are outside the scope of the SCM Agreement. In any event, the EC has shown nothing to suggest that DoD paid more than adequate remuneration. The U.S. government has a rigorous legal regime to ensure that it does not overpay for the services it purchases.

5. Likewise, NASA contracts with Boeing, other companies, and independent research facilities to purchase research services to further its mission. (NASA also provides grants to universities.) As with DoD, Boeing receives no more than adequate remuneration under NASA contracts, subject always to rigorous government procurement rules. NASA performs this research for public purposes, and makes the results largely available to the global aerospace community, including Airbus and its suppliers.

6. When it comes to NASA's payments to Boeing under the programs identified by the EC, the EC multiplies the actual amount (less than \$750 million spread over 30 years) almost ten-fold to achieve an astronomical (and illusory) sum of \$7.3 billion. The EC then adds more than \$3 billion *more* to this sum by characterizing as subsidies NASA's payments of its own employees' salaries, for work that they do on their own, or with contractors unrelated to Boeing, and then disseminate to the public. The EC takes a similarly distorted view of DoD's spending to add another (equally invalid) \$2.4 billion to the alleged subsidies.

7. In its zeal to magnify the subsidy value, the EC even challenges the U.S. government's practice of paying prices that allow the government contractor to cover its costs of research and development and preparation of bids for government projects. The EC ignores that this practice mirrors commercial practice – Airbus and Boeing both include the cost of research and development in the price they charge commercial customers for airplanes. The EC provides no reason to conclude that this market-based practice, available to all contractors with the U.S. government, becomes an actionable subsidy simply because Boeing is selling to a government rather than a private entity. The EC attributes a \$3.1 billion value to this practice, further bulking up its subsidy allegations.

8. The EC attacks not only the research programs themselves, but also the U.S. government's general practice of allowing government contractors to retain limited rights to patentable inventions they create while working under government contracts. This practice does not convey a benefit. It represents a concession on the part of the contractor, which would otherwise hold patent rights to the exclusion of all others in the market, including the government. This treatment is available to all contractors in all sectors, so that even if it were a subsidy, it is not specific. The EC, however, values these rights as equal to \$726 million to Boeing, bringing the total research-related allegation to a thoroughly implausible \$16 billion.

9. The remaining government spending that the EC considers to confer subsidies comes from a mixture of programs at the federal, state, and local levels. The largest of these programs by value is a Washington State tax realignment, which the EC treats as \$3.5 billion, even though virtually all of that figure is an estimate based on projections of future payments. Moreover, this tax treatment does not forego revenue – the basis of the EC's argument – because it merely brings aerospace manufacturers, who previously paid one of the highest manufacturing tax rates, closer to other taxpayers. The EC errs further in treating the entire tax realignment as a benefit to Boeing, even though some of it goes to companies that do not supply Boeing and may, in fact, supply Airbus. The EC provides no evidence to show that this tax adjustment "passes through" to Boeing.

10. A Washington state-wide highway improvement program also comes under EC scrutiny, ostensibly on the grounds that it included two projects near a Boeing plant, and despite that fact that the highways in question are used each day by hundreds of thousands of people and businesses unrelated to Boeing. They represent general infrastructure and, as such, are not a financial contribution.

11. In the State of Kansas, the EC seeks to find subsidies to Boeing under two broadly available economic incentive programs, one of which was never even utilized by Boeing. The City of Wichita has issued Industrial Revenue Bonds to a wide variety of businesses for more than 40 years to promote economic development. The Kansas Development Finance Authority issued bonds to a company independent of and unrelated to Boeing – and moreover, a company that is Airbus’s largest airframe supplier. Neither Kansas program is an actionable subsidy to Boeing.

12. The EC also raises claims against small government payments, such as sewer rates charged by the City of Everett in Washington, other general infrastructure in Washington, a tiny federal Department of Labor grant to a community college, and some small programs operated by the State of Illinois, Cook County, and the City of Chicago. None of these is an actionable subsidy. Boeing’s sewer rates (along with other local usage fees highlighted by the EC) are no lower than those for other comparable users. The Department of Labor grant was part of a program available for education applicable in a wide variety of high-tech industries, and was given to a college, rather than to Boeing. The Illinois programs consist of a few small tax measures that are generally available to other businesses within the state.

13. The EC asserts that one of these programs – the Washington State tax adjustment – is contingent on export performance. However, its claim is based on the EC’s misunderstanding of the state law, which confers the tax adjustment on all aerospace manufacturers without regard to the number of aircraft that Boeing actually produces, let alone exports or anticipates producing or exporting.

Claims of serious prejudice

14. The EC has also failed to meet the other requirement to obtain relief with regard to an actionable subsidy – demonstrating that each alleged subsidy caused adverse effects to its interests. The only adverse effects claimed by the EC are that alleged subsidies caused serious prejudice in the form of significant price suppression, significant lost sales, and displacement or impedance of imports into the United States or exports into third country markets. This entails proving both that a serious prejudice factor (price suppression, lost sales, or displacement or impedance) occurred, and also that the factor would not have occurred in the absence of (“but for”) the alleged subsidy.

15. The EC, however, makes no such showing. In the first place, the development of the current market situation makes a serious prejudice claim on Airbus’ part implausible.

- Airbus has had record-setting performances in terms of large civil aircraft production, sales, revenues, market share, and profits.
- Airbus’ market share, which stood at 16 percent of large civil aircraft orders in 1995, rose to 42 percent in 2000, and 56 percent in 2005.

- Even though it faced setbacks in 2006, Airbus delivered more aircraft than it ever had.
- Airbus itself has admitted that any difficulties it experienced in 2006 were a function of factors having nothing to do with Boeing.
- Airbus has begun recovering, taking record orders for its newest aircraft, the A350 XWB, and its other large civil aircraft, at the recent Paris Air Show.
- U.S. share of production has declined from 61 to 47 percent from 2000 to 2006, entirely to the benefit of Airbus.

16. The EC's arguments that "but for" the alleged subsidies, Airbus would not have experienced serious prejudice are also implausible. The EC presents a causation case that rests first, on assertions that Boeing could not have been ready to launch the 787 when it did without the "knowledge, experience, and confidence" Boeing gained while performing research services for the U.S. government, and second, on assertions that increases in non-operating cash flow from R&D payments – together with some smaller tax benefits – changed Boeing's pricing behavior. Neither claim withstands scrutiny.

17. With respect to "technology effects," the EC presents no convincing reason to believe that Boeing would have moved forward with the 787 later or more slowly in the absence of the alleged subsidization. The facts demonstrate the opposite. Composites technology – the centerpiece of the EC's technology arguments – was widely available in the commercial market, accessible to Boeing and Airbus. Further, DoD military technologies are not geared to commercial aircraft design and production generally, or the 787 specifically. (In any event, U.S. export controls make the use of military technology on large civil aircraft a practical impossibility.)

18. NASA funding is focused at too early a development stage to have influenced 787 product development. And, the results of the NASA R&D challenged by Airbus are so widely disseminated throughout the global aerospace industry that they cannot form a competitive advantage for Boeing. Indeed, Airbus and Boeing had parallel commercial experience with composites prior to the launch of the 787. In fact, in key technologies and experience, Airbus was actually ahead of Boeing. The factor that led to Boeing launching the 787 was not subsidies, but the economic promise of an efficient, mid-sized aircraft. That Airbus chose not to take that route, was a commercial decision to focus on the A380, the largest passenger aircraft in the world, and had nothing to do with the alleged subsidies.

19. With respect to "price effects," the EC never provides any basis to believe that the factors of serious prejudice it alleges – significant price suppression, significant lost sales, and displacement or impedance – would not have occurred but for the subsidies. If it makes economic sense for a company to price down the learning curve or to price in a way that expands its customer base, the company will do so whether or not it receives subsidies, unless the

subsidies fundamentally change the economics of its cost/benefit analysis. To show that Boeing's pricing has been shaped by subsidies, the burden is on the EC to demonstrate that "but for" the subsidies Boeing's pricing decisions would have been different. Neither the EC nor its economic analyst, Professor Cabral, does this.

20. Instead, the EC simply asserts that Boeing reduces its prices at the time of booking an order in response to tax advantages available only upon delivery of the aircraft, which can be three or more years later. The EC provides no credible support for this assertion because there is none.

21. The so-called "development subsidy" element of the EC's adverse effects argument is equally weak. The EC asserts that Boeing's access to capital markets is constrained and, therefore, Boeing "invests" most of the "cash" it receives from "development subsidies" into "aggressive pricing." The EC, however, offers no evidence that Boeing's access to capital markets is in any way constrained (and it is not), no evidence that the payments Boeing receives for government research projects is the functional equivalent of "free cash," and no evidence that Boeing has ever invested any of its "non-operating cash flow" in "aggressive pricing." To the contrary, the evidence disproves each part of the EC's assertion of serious prejudice through the price effects of the alleged "development subsidies."

22. The record shows that Airbus has been saddled with problems caused by its decision to focus on the A380 instead of a smaller point-to-point aircraft, by design decisions made on the A340 (a four-engine airplane that consumes too much fuel to compete in a high fuel cost environment), and by the consequences of its very deliberate strategy of price undercutting to expand its market share. None of this is remotely related to the alleged subsidies to Boeing.

23. In sum, the EC's case rests on systematic exaggeration and mischaracterization of U.S. government programs to create the appearance of an actionable subsidy. It relies on economic reports that are so flawed as to be unreliable. And, it presents an adverse effects case that disregards the true state of the global large civil aircraft market and removes Airbus' own erroneous strategic decisions and production mistakes from the analysis of serious prejudice. The Panel should accordingly reject the EC's claims.

I. PROCEDURAL BACKGROUND AND ISSUES**A. The United States Has Cooperated Fully With the SCM Agreement’s Information Gathering Provisions Applicable to the EC’s Claims Regarding U.S. Measures Affecting Trade in Large Civil Aircraft.**

24. As the Panel is aware, the dispute regarding certain U.S. measures affecting trade in large civil aircraft began with the EC’s first complaint, which was assigned the number DS317. From the outset, the United States has fully cooperated with the EC, the Facilitator in DS317, and the both panels to move the dispute forward.⁴ The United States alerted the EC immediately upon becoming aware of defects in the DS317 consultation request, and again upon becoming aware that those defects precluded the inclusion of certain claims in the terms of reference of the DS317 panel.⁵ Indeed, the U.S. statement to that effect before the DSB prompted the EC to request the consultations that led to this dispute.⁶

25. The United States also cooperated fully with information gathering under Annex V of the SCM Agreement. The United States agreed to initiation of an Annex V process the first time the EC requested one.⁷ It provided more than 40,000 pages of documents in response to questions proposed by the EC.⁸ It properly designated BCI and HSBI within all sets of documents that it submitted. The EC had multiple opportunities to request findings by the panel or the Annex V Facilitator that the United States failed to cooperate. It never made such a request⁹ and, in any event, neither the DS317 panel nor the DS317 Annex V Facilitator ever made such a finding. Thus, the only tenable conclusion to reach is that the United States cooperated fully in the DS317 information-gathering process.

26. Nonetheless, the EC expressed dissatisfaction with the results of that process. On that basis alone, only one month after the end of the DS317 Annex V process, the EC used the pretext of a new panel request with regard to its claims of actionable subsidies to large civil aircraft to seek *another* Annex V process.¹⁰ Nothing in the SCM Agreement entitled the EC to subject the United States to a second Annex V process immediately after completing an information-gathering exercise on the same topic without any question or concern from the panel

⁴ Paragraphs 7 through 20 of the Response of the United States to the Request For Preliminary Rulings Submitted by the European Communities (March 22, 2007) (“U.S. Response of March 22, 2007”) provide a more detailed description of the problems created by the EC’s refusal to cooperate with the United States and the panels to move this dispute forward in an efficient manner.

⁵ U.S. Response of March 22, 2007, paras. 8 and 9.

⁶ U.S. Response of March 22, 2007, para. 9.

⁷ U.S. Response of March 22, 2007, para. 10.

⁸ U.S. Response of March 22, 2007, para. 13.

⁹ U.S. Response of March 22, 2007, para. 13, note 17.

¹⁰ U.S. Response of March 22, 2007, para. 14.

or the Facilitator.¹¹ Accordingly, the United States did not concur in the EC's request to initiate a new process, and the DSB took no decision to do so.¹²

27. It is important to recognize that the EC's unhappiness with the DS317 Annex V process was entirely of its own making. The United States alerted the EC repeatedly that the DS317 consultation request was incomplete, and would preclude the DS317 panel from reviewing many of the claims that the EC wished to make. (In fact, it was the U.S. statement to the DSB to this effect that prompted the EC to file a new, more complete consultation request in July 2005.¹³) Even so, the EC took no steps to file a proper panel request before asking for initiation of the Annex V process.¹⁴ In fact, it did not request establishment of a panel with regard to its July 2005 consultation request until January 2006, after the close of information gathering in DS317.¹⁵

28. The EC's new panel request eventually led to the establishment of this Panel. Along the way, the United States made proposals to allow the EC to have access to the DS317 Annex V materials in this dispute. The United States proposed that DS317 and DS353 be assigned to the same panel.¹⁶ It also proposed that the DSB make a decision allowing this Panel's use of the DS317 information.¹⁷ The EC refused to accept any proposal with regard to the DS317 information that did not include an entirely new Annex V process.¹⁸ For the reasons described above, the United States did not agree to a second Annex V process on the EC's claims. On

¹¹ As the United States noted to the DSB

{W}hat the EC was really asserting was a unilateral right for a complaining party to re-open an Annex V process that had ended, simply by adding some new measures to a panel request. On this view, a responding party could then be subject to an endless cycle of burdensome Annex V processes. Annex V of the SCM Agreement did not provide for that right.

Minutes of Meeting Held in the Centre William Rappard on 14 March 2006, WT/DSB/M/206, para. 18 (4 April 2006).

¹² U.S. Response of March 22, 2007, para. 15.

¹³ Request for Consultations by the EC – Addendum, WT/DS317/1/Add.1, p. 1 (1 July 2006) (“The European Communities refers to the United States’ statement at the meeting of the Dispute Settlement Body (‘DSB’) on 13 June concerning the European Communities’ request for the establishment of a Panel in the above case, where you asserted that 13 of the 28 subsidy programs referenced in the panel request were not listed in the consultation request of 6 October 2004 . . . and cannot be the subject of panel proceedings.”).

¹⁴ U.S. Response of March 22, 2007, para. 8.

¹⁵ U.S. Response of March 22, 2007, paras. 13-14.

¹⁶ U.S. Response of March 22, 2007, para. 15.

¹⁷ U.S. Response of March 22, 2007, para. 18.

¹⁸ U.S. Response of March 22, 2007, para. 19.

March 5, 2007, the EC announced its decision to proceed to make its claims “without access to the information covered by the BCI/HSBI procedures in DS317.”¹⁹

29. In short, no one forced the EC to forego use of the BCI and HSBI from the DS317 Annex V process in making its first written submission. The EC voluntarily proceeded based only on publicly available information, documents provided to the EC’s outside advisors under the U.S. Freedom of Information Act, and its own BCI and HSBI.

B. The Panel Should Deny the EC’s Requests to Treat the Information Submitted by the EC as the “Best Information Available” and to Draw Adverse Inferences With Regard to Factual Matters in Dispute.

30. Based on arguments in Section V of its First Written Submission, the EC repeatedly asks the Panel to treat information referenced by the EC as the “best information available” and to draw adverse inferences with regard to certain facts. In fact, the EC selected information that was decidedly not the “best,” as it routinely disregarded readily available facts that contradicted its theories, even when those facts appeared in documents cited by the EC. Moreover, the EC Submission provides neither a factual basis nor valid legal justification for the Panel to take the radical step of drawing adverse inferences. Therefore, the Panel should proceed as panels normally do, by requiring the complaining party to meet its burden of proof and set out a *prima facie* case of inconsistency with the covered agreements.

31. The EC’s argument for adverse inferences is simplistic. The EC first asserts that the United States failed to cooperate with information gathering when it (1) “opposed initiation of the Annex V process in this dispute” and (2) “opposed an early decision by the Panel on the European Communities’ preliminary ruling request.”²⁰ The EC asserts that this alleged lack of cooperation forced it to base its submission “solely on non-confidential information that it has available from the United States.”²¹ From these predicates, the EC concludes that the Panel should apply the Annex V rules regarding best information available and adverse inferences against the United States in this dispute.

32. The two examples of “noncooperation” cited by the EC are, in fact, nothing of the sort. The notion that mere opposition to a scheduling proposal constitutes noncooperation lacks either factual or legal support. It is the Panel that sets the schedule, not the parties. If the Panel found the U.S. opposition to the EC schedule unfounded or “noncooperative,” it had the option of rejecting the U.S. views and granting the EC scheduling request. It did not. And, once the Panel set a deadline, the United States responded one week in advance – hardly the action of a party

¹⁹ Letter from the EC to the Panel, p. 2 (March 5, 2007). This statement shows that the EC considered that it retained access to the large volume of information submitted during the Annex V process that was *not* subject to the BCI/HSBI rules. In fact, the EC used many of these materials in preparing its first written submission.

²⁰ ECFWS, para. 60.

²¹ ECFWS, para. 60.

that was inappropriately seeking to delay resolution of the EC preliminary ruling request. The EC's notion that a party's expression of its views on scheduling is a failure to "cooperate" also runs contrary to paragraphs 1 and 3 of Article 12 of the *Understanding on Rules and Procedures Governing the Settlement of Disputes* ("DSU"). In requiring panels to consult with the parties before taking decisions with regard to working procedures or scheduling, those provisions clearly envisage that parties may disagree with each others' scheduling suggestions.

33. As for opposition to initiation of an Annex V process, the key point – and one that the EC has itself repeatedly made – is that the EC began DS353 to address problems arising from its disagreement with the United States about the validity of the panel request in DS317.²² The United States never opposed initiation of an Annex V process with regard to the EC's claims of subsidization of large civil aircraft. The only thing the United States opposed was an unprecedented *second* Annex V process merely because the EC unilaterally decided, absent any guidance from the panel or the facilitator, that the United States failed to cooperate with the first. Thus, there is no support for the EC's view that the United States failed to cooperate with information gathering with regard to its claims.

34. Nor can it be said that the lack of the Annex V materials has prejudiced the EC. As noted above, the EC itself is responsible for its lack of access to the BCI and HSBI materials on the DS317 Annex V record, as it opposed, without any plausible explanation, every proposal put forward by the United States to make those materials available.²³ Thus, the only logical conclusion is that the EC viewed the absence of those facts as beneficial to its case. (As shown below, the actual facts – most of which the EC already knew from having reviewed them in DS317 – are fatal to the EC claims.)

35. In fact, the EC based many of the arguments in its first written submission – however misguided – on facts taken from documents provided by the U.S. federal, state, and local governments. Although the EC asserts that the United States did not comply with its request for

²² Request for Consultations by the EC – Addendum, WT/DS353/1, p. 1 (1 July 2005) ("The European Communities cannot agree with this contention {that the EC failed to include 13 alleged subsidies in its first consultation request} but is prepared to pursue consultations on the issue raised in these proceedings in or to clarify and, if possible, resolve them . . ."); Request for the Establishment of a Panel by the European Communities, WT/DS353/2 (20 January 2006) ("This request is without prejudice to the EC's position that all the measures described below are already properly before the Panel that was established on 20 July 2005."); Minutes of Meeting Held in the Centre William Rappard on 2 February 2006, WT/DSB/M/204, para. 2 (24 February 2006) ("The representative of the European Communities . . . said that the EC had requested the meeting of the DSB to prepare the ground for resolving a number of procedural imbroglios that had arisen in this dispute . . .").

²³ To this day, the only explanations it has put forward were that the DSB might not take the decision proposed by the United States and that such a decision conflicted with the EC view that the DSB had already initiated an Annex V process in this dispute. As the EC neither tried to obtain a decision nor identified a single Member that might object to such a decision, the Panel should place no weight on the first explanation. Paragraphs 21 through 39 of the U.S. Request of July 22, 2007, explain the reasons for concluding that the DSB did not take the decision that the EC perceives. In any event, action making the DS317 Annex V record available to this Panel is not inconsistent with the notion that the DSB already commenced a second Annex V process.

documents, its Exhibit EC-28 (entitled “Summary of Denials to Requests for Government Information”) actually concedes that NASA, DoD, and the State of Illinois gave the EC large volumes of information – contracts, summary reports on IR&D and B&P expenses, reports on patent waivers, and unspecified other documents. The EC submission cites to additional materials it obtained from NASA, DoD, DOC, the State of Kansas, the State of Washington, Snohomish County, the City of Everett, and the City of Wichita. The EC subsequently used these materials to draft its first written submission.

36. In addition, the EC apparently felt free to use documents submitted during the DS317 Annex V process in preparation for its written submission. The EC has even submitted documents that it obtained from the Annex V process as exhibits in this proceeding.²⁴ Thus, the EC has apparently been using those materials – at least the documents that were not BCI or HSBI – at the very same time that it was assailing the United States for not agreeing to a second Annex V process.

37. Therefore, the Panel should deny the EC’s requests to rely on EC information as the “best information available” and to take adverse inferences against the United States.

C. The EC Request for the Panel to Exercise its Authority Under Article 13 of the DSU is Moot.

38. The EC’s preliminary ruling request that the Panel seek information under Article 13 of the DSU is based on a situation that does not exist now and, in fact, never existed – an absence of information on the U.S. government programs that the EC wished to challenge. As the EC’s first written submission demonstrates, there is a wealth of information on these programs in the public domain. The EC was also able to obtain additional information that is not in the public domain through use of the U.S. Freedom of Information Act, similar measures administered by U.S. states, counties and cities, and the non-BCI, non-HSBI materials in the DS317 Annex V process.

39. The filing of this submission and the voluminous materials included as exhibits further increase the amount of information already available to the Panel, and obviate the need for further information gathering. As also demonstrated below, in fact, the EC failed to make full use of the information it did have, in that it disregarded anything that contradicted its preconceived notions that the programs in question conferred actionable subsidies to large civil

²⁴ The following EC exhibits contain redaction markings identical to documents that the United States submitted in the DS317 Annex V process: EC-322 (Patent Waiver W-4294); EC-345 (Space Act Agreement 249); EC-346 (Space Act Agreement 404); EC-367 (Space Act Agreement 228); EC-369 (Space Act Agreement 214); EC-371 (Prenegotiation Position for AST Noise Contract, NAS1-97040); EC-397 (Patent Waiver AW-4282); EC-401 (Space Act Agreement 507); EC-402 (Estimated Price Report for SAA-507). The United States cannot rule out the possibility that the Annex V process gave the EC information that it would not otherwise have had, and that it later used that information to gather documents cited in the first written submission.

aircraft. Further, the EC disregarded voluminous publicly available information that disproves its arguments. Finally, this submission provides additional information, not available in the public domain, relevant to the EC claims. Therefore, there is no basis for the EC's unprecedented assertion that the Panel needs to ask the type of broad questions (343 of them) proposed in the EC's preliminary ruling request.

40. It is also significant that the EC's first written submission significantly narrows and focuses the broad claims set out in its request for establishment of a panel. For example, although the EC references NASA's Materials and Structures Systems Technology Program and Aircraft Energy Efficiency Program as historical background, it has dropped independent claims against those programs.²⁵ It has also abandoned its separate claim that DoD's procurement of goods from Boeing, including the Multi-Mission Aircraft and Comanche helicopter, provided an actionable subsidy to large civil aircraft.²⁶ Moreover, for many of the specific DoD programs that the EC references in its first written submission, such as the B-2 bomber or the F-22 fighter, the EC presents only the most cursory arguments that there is any relation to large civil aircraft.²⁷ It has utterly failed to meet its burden of proof. Therefore, any information gathering by the Panel with regard to these programs would alleviate the EC's burden of proof for it and make a *prima facie* case for the EC – actions outside the scope of a panel's authority under Article 13 of the DSU.²⁸

²⁵ Request for Establishment of a Panel by the European Communities, WT/DS353/2, section 2.a(ix) and 2(x) (20 January 2006).

²⁶ Request for Establishment of a Panel by the European Communities, WT/DS353/2, section 3.c (20 January 2006).

²⁷ ECFWS, paras. 711-712 and 721-723.

²⁸ Response of the United States to the Request for Preliminary Rulings Submitted by the European Communities, para. 41 (Mar. 22, 2007).

II. ESTABLISHING THE EXISTENCE OF A SUBSIDY REQUIRES A DEMONSTRATION THAT THERE WAS A FINANCIAL CONTRIBUTION THAT CONFERRED A BENEFIT, AND THAT THE BENEFIT WAS SPECIFIC TO LARGE CIVIL AIRCRAFT.

A. A Member Challenging an Alleged Subsidy Must Demonstrate That it Provides One of the Forms of Financial Contribution Defined in Article 1.1(a)(1).

41. Article 1.1(a) sets out the first step of analysis of a subsidy, and contains four categories of potential government actions that may be treated as a subsidy. If a challenged measure does not fall within one of these categories, the analysis ends. As the Appellate Body has recognized, “the requirement of a financial contribution from the outset was intended by its proponents precisely to ensure that not all government measures that conferred benefits could be deemed to be subsidies.”²⁹ The analysis of the nature of the alleged financial contribution is doubly important because it guides the analysis of whether “a benefit is thereby conferred” for purposes of Article 1.1(a)(2).

42. The EC subsidy allegations identify three types of alleged subsidies: grants under Article (a)(1)(i), government revenue that is otherwise foregone under Article (a)(1)(ii), and government provision of goods or services other than general infrastructure under Article (a)(1)(iii). However, the EC provides almost no explanation of the meaning of these terms, and no explanation at all as to why it believes the cited U.S. government actions fall into these categories.

43. Article 1.1(a)(1)(i) provides that a “direct transfer of funds” is one category of financial contribution, of which a “grant” is one example. The ordinary meaning of “grant” is “{a} formal gift or legal assignment of money, privilege, etc.”³⁰ The term used for “grant” in the Spanish text, “donación,” means “action and effect of donating,” with “donating” defined as “said of a person: to transfer a thing or the right held over it to another free of charge.”³¹ Thus, a grant exists for purposes of Article 1.1(a)(1)(i) when the government confers something on a recipient without receiving anything in return.

44. Article 1.1(a)(1)(iii) provides that a government “purchase” of goods is a different form of financial contribution. The term “purchase” is not specifically defined in the SCM Agreement, nor have previous WTO panels or the Appellate Body considered its meaning. In the absence of a specific definition, the words of a treaty “are to be given their ordinary meaning

²⁹ *US – Softwood Lumber CVD (AB)*, para. 54, note 35, quoting *US – Export Restraints*, para. 8.65.

³⁰ *New Shorter Oxford English Dictionary*, p. 1131.

³¹ *Diccionario de la Lengua Española*, p. 848 (“donación. . . . Acción y efecto de donar.” “donar. . . . Dicho de una persona: Traspasar graciosamente a otra algo o el derecho que sobre ello tiene.”) (Exhibit US-13).

in their context and in light of the treaty’s object and purpose.”³² The ordinary meaning of “purchase” is “{a}cquisition by payment of money or some other valuable equivalent; the action or an act of buying.”³³ Black’s Law Dictionary defines purchase as “the act or an instance of buying,” and defines a purchaser as “one who obtains property for money or other valuable consideration; a buyer.”³⁴ Similarly, the concept of *do ut des* that is the basis for the concept of purchase in civil law jurisdictions defines a transaction by reference to an acquisitive purpose – “I give so that you give.”³⁵ Thus, both the ordinary and legal meanings of the term purchase refer to payments (of money or kind) provided as compensation for acquiring or buying something.

45. The structure of the SCM Agreement similarly confirms that a purchase is a transaction that involves compensation for buying. Article 14 instructs that the benefit of a government purchase is to be evaluated by reference to “remuneration” – defined as “reward, recompense; payment, pay.”³⁶ This construction reinforces the notion that the focus of a purchase is on the act of buying, and the transfer of funds is done for the purpose of providing remuneration for the thing bought.³⁷

46. Article 1.1(a)(1)(iii) provides that government provision of a good or service is an additional form of financial contribution. The ordinary meaning of “provision” is “{t}he action or an act of providing something; the fact or condition of being provided.”³⁸ Provide, in turn, means “{s}upply or furnish for use; make available; yield, afford.”³⁹ Thus, a “provision of a good or service” exists any time the government supplies or furnishes a good or service. Article 1.1(a)(1)(iii) further specifies that providing goods or services as “general infrastructure” is not a financial contribution. The ordinary meaning of “general” is “{i}ncluding, involving, or affecting all or nearly all the parts of a (specified or implied) whole, as a territory, community, organization, etc.; completely or nearly universal; not partial, particular, local or sectional.”⁴⁰ The ordinary meaning of “infrastructure is “the installations and services (power stations,

³² *US – Gasoline*, p. 17 (reasoning that Article 31 of the Vienna Convention on the Law of Treaties (“VCLT”) has attained the “status of a rule of customary or general international law” and thus applies in the interpretation of the provisions of the WTO Agreements).

³³ *New Shorter Oxford English Dictionary*, p. 2418 (Exhibit US-14).

³⁴ Black’s Law Dictionary, 8th edition (2004), p. 1270 (Exhibit US-15).

³⁵ Karl Larenz, *Lehrbuch des Schuldrechts: Band I, Allgemeiner Teil* (1987), p. 203 and English translation (Exhibit US-16).

³⁶ SCM Agreement Article 14(a); *New Shorter Oxford English Dictionary*, p. 2543 (Exhibit US-14).

³⁷ Again, this differs significantly from a grant situation, defined by NASA as “provid{ing} financial assistance to the recipient to conduct a fairly autonomous program.” NASA Grants and Cooperative Agreements Handbook 1260.12(c) (Exhibit US-94).

³⁸ *New Shorter Oxford English Dictionary*, p. 2394 (Exhibit US-14).

³⁹ *New Shorter Oxford English Dictionary*, p. 2393 (Exhibit US-14).

⁴⁰ *New Shorter Oxford English Dictionary*, p. 1073 (Exhibit US-14).

sewers, roads, housing, etc.) regarded as the economic foundation of a country.”⁴¹ Used together, the terms refer to installations and services that are available to all or nearly all inhabitants of the relevant area.

47. There are several examples of activities that warrant treatment as general infrastructure:

- goods or services *available* to the public at large, such as a public road or books loaned from a public library;
- good{s} or services *available* to members of the public at large, such as free public education or training programs for unemployed workers; and
- security, safety-related, social or cultural services, such as police services to ensure public security, safety constructions and public health services, and social services for the social development of the population.

In a recent dispute involving large civil aircraft, the EC has also advocated the treatment of these types of activities as general infrastructure.

48. Finally, it is noteworthy that Article 1.1(a)(1)(iii) of the SCM Agreement covers only situations in which “a government provides goods or services other than general infrastructure, or purchases goods.” The exclusion of purchases of services from this definition is clear: (1) services are explicitly mentioned with respect to government provisions but not purchases, and, (2) the final version of the SCM Agreement eliminated an explicit reference to purchase of services contained in earlier drafts.⁴² This limitation on the definition of “financial contribution” must be given effect by excluding government purchases of all services from treatment as a financial contribution.⁴³ Thus, to use the definition of “purchase” outlined above, when the government confers something of value in exchange for the recipient supplying a service, there is no financial contribution.

⁴¹ *New Shorter Oxford English Dictionary*, p. 1365 (Exhibit US-14).

⁴² Draft Text by the Chairman, MTN/GNG/NG10/W/38/Rev.2 (27 November 1990) (Cartland III) (“For the purpose of this Agreement, a subsidy shall be deemed to exist if ... a government provides goods or services other than general infrastructure, or purchases goods or services ...”) (emphasis added). The United States notes that, under Article 32 of the Vienna Convention on the Law of Treaties, “recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meaning resulting from the application of article 31.”

⁴³ The drafters were, in general, clear that they intended a limited universe of government measures to be considered financial contributions. *US – Export Restraints*, para. 8.69 (“Obviously, Article 1 as ultimately adopted incorporates the requirement of a financial contribution by a government or other public body as a necessary element of a subsidy. The submissions by participants to the negotiations suggest that the proponents' purpose behind including this element was to limit the kinds of government actions that could fall within the scope of the subsidy and countervailing measure rules.”).

B. A Member Challenging an Alleged Subsidy Must Establish That the Financial Contribution in Question Conferred a Benefit to the Recipient on Terms More Favorable than Those Available to the Recipient in the Market.

49. Article 1.1(b) sets out the second step of the subsidy analysis, an inquiry into whether the financial contribution identified in the first step confers a benefit. The second step of the subsidy analysis, under Article 1.1(b), requires proof for each financial contribution that “a benefit is thereby conferred.” The Appellate Body and panels have identified several important legal principles for determining whether there is an actionable benefit.

1. A benefit exists if the financial contribution is provided on terms better than the recipient could have obtained in the market.

50. Based on the ordinary meaning of the term “benefit” and the context provided by Article 14, the Appellate Body found in *Canada – Aircraft* that a benefit arises “if the recipient has received a ‘financial contribution’ on terms more favourable than those available to the recipient in the market.”⁴⁴ In implementing this principle, panels normally look to commercial practice for comparison with the alleged subsidy, such as the interest rates offered on a commercial basis by a market operator⁴⁵ or the price charged by private suppliers for a good.⁴⁶

51. In this regard, the Appellate Body has found Article 14 “constitutes relevant context for the interpretation of “benefit” in Article 1.1(b).”⁴⁷ Although Article 14 does not elaborate on how to identify the benefit associated with a grant or the foregoing of government revenue, it contains detailed guidance on government transactions:

the provision of goods or services or purchase of goods by a government shall not be considered as conferring a benefit unless the provision is made for less than adequate remuneration, or the purchase is made for more than adequate remuneration. The adequacy of remuneration shall be determined in relation to prevailing market conditions for the good or service in question in the country or provision or purchase (including price, quality, availability, marketability, transportation and other conditions of purchase or sale).

⁴⁴ *Canada – Aircraft (AB)*, para. 158.

⁴⁵ *Korea – Commercial Vessels*, para 7.155.

⁴⁶ *US – Softwood Lumber CVD (AB)*, para. 90

⁴⁷ *Canada – Aircraft (AB)*, para. 155.

The Appellate Body has explained that “the term ‘adequate’ in this context means ‘sufficient, satisfactory’. ‘Remuneration’ is defined as ‘reward, recompense; payment, pay’.⁴⁸ Thus, a benefit is conferred when a government provides goods to a recipient and, in return, receives insufficient payment or compensation for those goods.”⁴⁹

52. The second sentence of Article 14(d) makes clear that the market generally provides the reference point for whether remuneration is adequate. As the Appellate Body has found, this analysis has some flexibility:

the use of the phrase “in relation to” in Article 14(d) suggests that . . . the drafters did not intend to exclude any possibility of using as a benchmark something other than private prices in the market of the country of provision. This is not to say, however, that private prices in the market of provision may be disregarded. Rather, it must be demonstrated that, based on the facts of the case, the benchmark chosen relates or refers to, or is connected with, the conditions prevailing in the market of the country of provision.⁵⁰

However, there is no requirement that the market in question be “pure” or “undistorted by government intervention.”⁵¹

2. *The existence of a benefit depends on the effect on the recipient, and not on the cost to the government of providing the financial contribution.*

53. In *Canada – Aircraft*, the Appellate Body rejected the argument that cost to the government is relevant to the subsidy analysis because, “{t}he use of the past participle ‘conferred’ in the passive form, in conjunction with the word ‘thereby,’” in Article 1.1(b) “calls for an inquiry into *what was conferred on the recipient*.”⁵² The cost to the government of providing that financial contribution is not relevant and, in fact, such a consideration “is at odds with the ordinary meaning of Article 1.1(b).”⁵³

⁴⁸ *Canada – Aircraft (AB)*, para. 84.

⁴⁹ *US – Softwood Lumber CVD (AB)*, para. 84 (citations omitted).

⁵⁰ *US – Softwood Lumber CVD (AB)*, para. 89.

⁵¹ *US – Softwood Lumber CVD (AB)*, para. 87.

⁵² *Canada – Aircraft (AB)*, para. 154.

⁵³ *Canada – Aircraft (AB)*, para. 154.

3. *A financial contribution to one entity may be treated as a subsidy to another, unrelated entity only if the benefit to the recipient “passed through” to the other entity.*

54. The EC is claiming that financial contributions to other companies actually conferred a benefit on Boeing. The Appellate Body has dealt with this possibility in the past, and has found that if the recipient of a subsidy is different from and unrelated to the producer of the allegedly subsidized product, a subsidy exists only if the benefit “passed through” to the producer.

55. In *US – Softwood Lumber (CVD)*, the Appellate Body has addressed this requirement in the context of a subsidy conferred on the producer of some input product, and an unrelated company then buys the input at arm’s length to make the allegedly subsidized product. The Appellate Body found that

in such a case, there is a *direct recipient* of the benefit – the producer of the *input* product. When the input is subsequently processed, the producer of the *processed product* is an *indirect recipient* of the benefit – provided it can be established that the benefit flowing from the input subsidy is passed through, at least in part, to the processed product. Where the *input producers* and producers of the processed products *operate at arm’s length*, the pass-through of input subsidy benefits from the direct recipients to the indirect recipients downstream *cannot simply be presumed; it must be established by the investigating authority. In the absence of such analysis, it cannot be shown that the essential elements of the subsidy definition in Article 1 are present in respect of the processed product.*⁵⁴

Although the Appellate Body made this finding with regard to countervailing duty measures under Part V of the SCM Agreement, it grounded its conclusion exclusively in Article 1, which is equally applicable to actionable subsidy claims under Part III of the SCM Agreement.

C. A Member Challenging an Alleged Subsidy Must Establish That the Benefit Is Specific.

56. A financial contribution that confers a benefit is a subsidy for purposes of the SCM Agreement only if it is “specific.” The panel in *US – Cotton Subsidies* cautioned that “whether a subsidy is specific can only be assessed on a case-by-case basis” and “the plain words of Article 2.1 indicate that specificity is a general concept, and the breadth or narrowness of

⁵⁴ *US – Softwood Lumber CVD (AB)*, para. 143 (emphasis added).

specificity is not susceptible to rigid quantitative definition.”⁵⁵ This does not mean that the analysis is somehow loose. Article 2.4 specifies that “{a}ny determination of specificity . . . shall be clearly substantiated on the basis of positive evidence.”

57. Article 2.1 of the SCM Agreement sets out three standards for evaluating specificity. The chapeau of Article 2.1 states that each of these standards be applied to enterprises “within the jurisdiction of the granting authority.” Therefore, if a regional authority (such as a state, or county, or city) makes a financial contribution that confers a benefit, the specificity analysis addresses only certain enterprises within the jurisdiction of that authority.

58. The first standard, set out in Article 2.1(a), defines a subsidy as specific if “the granting authority, or the legislation pursuant to which the granting authority operates, explicitly limits access to a subsidy to certain enterprises,” a concept often described as “*de jure* specificity.” The chapeau to the article defines “certain enterprises” as meaning “an enterprise or industry or group of enterprises or industries.” The panel in *US – Cotton Subsidies* found that “‘industry’ relates to producers of certain products. The breadth of this concept of ‘industry’ may depend on several factors in a given case.”⁵⁶ After evaluating agricultural programs, the panel concluded that when a law explicitly restricted subsidies to a particular crop or crops, it was specific.⁵⁷ However, it left open whether a measure applicable to *all* agricultural products would be specific.

59. Second, Article 2.1(b) defines a subsidy as *not* specific if “the granting authority, or the legislation pursuant to which the granting authority operates, establishes objective criteria or conditions governing the eligibility for, and the amount of, a subsidy . . . provided that the eligibility is automatic and that such criteria and conditions are strictly adhered to.” A footnote specifies that criteria or conditions are “objective” if they are “neutral, . . . do not favour certain enterprises over others, and . . . are economic in nature and horizontal in application, such as number of employees or size of enterprise.” The United States is not aware of any panel report elaborating on this text.

60. Third, under Article 2.2(c) even if subparagraphs (a) and (b) support a finding of *non*-specificity, when “there are reasons to believe that the subsidy may in fact be specific, other factors may be considered.” This situation is often described as “*de facto* specificity.” The “other factors” for analysis of a claim of *de facto* specificity are:

use of a subsidy programme by a limited number of certain enterprises, predominant use by certain enterprises, the granting of disproportionately large amounts of subsidy to certain enterprises,

⁵⁵ *US – Cotton Subsidies*, para. 7.1142.

⁵⁶ *US – Cotton Subsidies*, para. 7.1142.

⁵⁷ *US – Cotton Subsidies*, para. 7.1152.

and the manner in which discretion has been exercised by the granting authority in the decision to grant a subsidy.³

³ In this regard, in particular, information on the frequency with which applications for a subsidy are refused or approved and the reasons for such decisions shall be considered.

61. As its title implies, an inquiry into *de facto* specificity is, by necessity, fact specific. For example, the panel in *EC – DRAMs* upheld a finding of *de facto* specificity when only six of 200 eligible companies used a particular program, and 41 percent of the funds disbursed went to a single recipient.⁵⁸ The *US – Lumber CVD* panel also upheld a finding of *de facto* specificity because the “wood products industries” that benefitted from the program in question “constitutes at most a limited group of industries.”⁵⁹ When Canada complained that this reasoning would make a subsidy of any government provision of a good usable only by a limited number of enterprises, the panel stated, “{w}e do not consider that this would imply that any provision of a good in the form of a natural resource automatically would be specific, precisely because in some cases, the goods provided (such as for example oil, gas, water, etc.) may be used by an indefinite number of industries.”⁶⁰

62. It is important to note that Article 2.1(c) does not operate as an exception to Articles 2.1(a) and (b). Rather, it adds “other factors” to “consider” when “there are reasons to believe that the subsidy may in fact be specific.” Thus, the proper approach is to consider the Article 2.1(c) factors to decide whether they indicate the existence of specificity.

63. An analysis of the text provides further guidance on how to approach *de facto* specificity. Article 2.1 contrasts two situations: (1) that a subsidy appears, from consideration of its terms, to be either not limited to certain enterprises or provided in accordance with objective criteria or conditions and (2) reasons to believe that it is “in fact” specific. Thus, the Article calls for a comparison of the *de jure* “appearance” of non-specificity with what “in fact” actually happens in its disbursement.

64. One Article 2.1(c) factor calls for a comparison of whether the amount of a subsidy granted to certain enterprises is “disproportionately large.” An amount is disproportionate if it is “{l}acking proportion; poorly proportioned; out of proportion (*to*); relatively too large or too small.”⁶¹ All of these meanings imply the existence of a baseline to indicate when an amount has proportion or is in proportion, which occurs when the amount constitutes an appropriate share of

⁵⁸ *EC – DRAMs*, paras. 7.223, 7.226, and 7.230.

⁵⁹ *US – Softwood Lumber CVD*, para. 7.121.

⁶⁰ *US – Lumber CVD*, para. 7.116.

⁶¹ *New Shorter Oxford English Dictionary*, p. 708 (Exhibit US-14).

a whole.⁶² In this case, a share is appropriate when the relationship between the subsidy to “certain enterprises” as defined in Article 2.1 and subsidies to all enterprises in the baseline group is comparable to the relationship between the certain enterprises and all enterprises in the group (measured by indicators that are appropriate in light of the circumstances, which could include economic output, employment, or other indicators). In light of the structure of Article 2.1(c), that baseline is the group of enterprises defined by the criteria that made the subsidy “appear” to be non-specific.

65. Thus, identifying a relevant baseline is fact-dependent. In the first instance, such identification should reflect the manner in which the authority providing the subsidy classifies its activities. If, for example, the context is a loan provided pursuant to a dedicated lending program, a relevant baseline would be all lending under the program. Absent a discrete program, other ways in which the entity providing the subsidy classifies its provision of subsidies should be examined. For example, if the entity classifies subsidies by economic sector or by policy objective, it would be appropriate to consider the amount of subsidy at issue in relation to these categories.

66. An additional element in identifying the relevant baseline is the length of time. This is indicated by the last sentence in Article 2.1(c) of the SCM Agreement, which calls for taking account of “the length of time during which the subsidy programme has been in operation.” When a subsidy program has been in operation for a relatively short period of time, this may mean giving little weight to a disproportionate use that may arise from the size of the sample set, and which could be diluted as more enterprises decide to apply for the program.

67. Having identified the baseline against which to compare the amount of subsidy at issue, the question is how the enterprises receiving the subsidy at issue compare to other enterprises in the baseline being examined. As noted above, here one would look to indicators that are appropriate in light of the circumstances. This analysis should lead to a calculation of the percentage of total subsidy disbursements the certain enterprises received, and the percentage that the certain enterprises represent of the baseline group. If the percentage of subsidies received by certain enterprises’ substantially exceeds their percentage of baseline group, that factor would suggest disproportionality.

68. Another element of the *de facto* specificity inquiry is the breadth of the relevant economy. Article 2.2(c) provides that “{i}n applying this subparagraph, account shall be taken of the extent of diversification of economic activities within the jurisdiction of the granting authority, as well as of the length of time during which the subsidy programme has been in operation.” No panel has elaborated on this requirement.

⁶² *New Shorter Oxford English Dictionary*, pp. 2370-2371 (Exhibit US-14).

III. DoD RESEARCH, DEVELOPMENT, TESTING, AND EVALUATION (“RDT&E”) ACTIVITIES DO NOT PROVIDE A SUBSIDY TO BOEING’S LARGE CIVIL AIRCRAFT.

69. Boeing Commercial Aircraft (“BCA”) is the Boeing division that produces civil aircraft.⁶³ It is the world’s second largest producer, and makes only large civil aircraft. It is not a party to any of the DoD contracts referenced in the EC claims regarding DoD RDT&E activities. Those contracts are, in fact, with Integrated Defense Systems (“IDS”), the Boeing division responsible for military sales.

70. DoD enters into contracts with private suppliers, including IDS, to obtain a wide variety of goods and services. Among those services are the four subject to the EC’s claim – research, development, testing, and evaluation with regard to military equipment and technology.

71. The EC’s claims with regard to DoD ignore the reality that Boeing and DoD have a contractual relationship consistent with market practices. The EC simply asserts, without any support, that DoD “funding for LCA-related R&D activities through what they call ‘contracts’ . . . are in reality grants to Boeing/MD for LCA-related R&D expenses.”⁶⁴ Then, based on this unsupported statement, it simply asserts (again without support) that “Boeing is not required to pay anything in return for this RDT&E funding.”⁶⁵

72. In taking this approach, the EC first written submission challenges a fictitious measure – DoD funding of “dual use” research that provided “nothing in return” to the U.S. government.⁶⁶ No such program exists or existed. However, by creating this fiction, the EC ignores a reality that is fatal to its claims:

- DoD contracts with Boeing’s defense unit (Integrated Defense Systems or “IDS”) to engage in explicitly military research that is of interest to DoD and advances the United States’ national defense objectives, generally to design more advanced weapons or other defense systems or to reduce the cost of such systems.
- DoD tasks Boeing scientists to perform work defined by DoD, receives voluminous data and scientific reports on the outcome of that work, and receives the right to convey the research results to any other company for use on any government project.

⁶³ This submission will use the term “BCA” to refer to both BCA and its predecessor divisions that produced large civil aircraft: Boeing Commercial Aircraft Group (“BCAG”) and McDonnell Douglas’s civil aircraft operations.

⁶⁴ ECFWS, para. 457.

⁶⁵ ECFWS, para. 765.

⁶⁶ ECFWS, para. 766.

- DoD remuneration to Boeing for this contracted research is subject to an elaborate legal regime and rigorous government auditing and enforcement to ensure that the government is not overpaying for the services received.

In short, under RDT&E contracts, DoD purchases research and development services, and does so for a market-based price. As we explained in Part II, Section A, the SCM Agreement does not treat the purchase of services as a financial contribution. Even, assuming *arguendo* that purchase of services was a financial contribution, the EC can point to no evidence that the U.S. government pays more than adequate remuneration for those services. Therefore, there is no subsidy.

73. The EC seeks to bypass these fundamental, and insurmountable, problems by calling the contractual activities at issue “grants.” However, in refusing to grapple with the reality of the government payments at issue, the EC fails to make a *prima facie* case that the measures are subsidies.

74. The EC’s claims of so-called “dual use” technology or knowledge transfer, are therefore besides the point, as they do not and cannot manufacture a subsidy from underlying transactions that confer neither a financial contribution nor benefit to Boeing. In any event, the EC’s “dual use” assertions fail even by their own terms – they rest on a false premise that DoD’s military research is designed to assist the civilian sector, they ignore the severe technological and legal limitations on the use of military technology for civil aircraft, and they ascribe to Boeing a use of military-origin “knowledge” that is inconsistent with Boeing’s own practice and U.S. law.

75. First, the false premise: DoD has indeed in the past funded some research on “dual use” technologies. But the EC misrepresents the nature of the programs. “Dual use” from DoD’s perspective involves leveraging commercial technology for military purposes. The explicit design and objective is not to move resources to the civil sector, but rather to move resources from the civil sector to the military sector. The EC has the flow backwards.

76. Second, the technological realities: The EC ignores fundamental technological differences between military and civilian missions and requirements. DoD procures research to fulfill military functions, which differ in fundamental ways from the needs of commercial aircraft. Military aircraft carry only pilots or soldiers (but are increasingly unmanned), often fly at supersonic speeds, must evade radar, survive bullet holes and land in rocky deserts or thick jungles, and drop paratroopers and/or cargo. Civil aircraft carry commercial passengers (including demanding, and high revenue-generating, first-class passengers), fly only at subsonic speeds, are required to be seen on radar, and land at busy hub airport runways. The technologies that allow military aircraft to do their mission are expensive – and unnecessary – for a commercial aircraft. Thus, even items that are “potentially” or “theoretically” useful to large civil aircraft are not what aircraft designers or aircraft customers consider either commercially viable or feasible.

77. Third, the legal limitations: Because of their military nature, technologies developed

under a DoD RDT&E contract will generally be included in the U.S. Munitions List, which results in the imposition of stringent controls under U.S. International Traffic in Arms Regulations (“ITAR”) on the export and transfer of any resulting defense articles and technical data related to those articles. These restrictions make it effectively impossible to use controlled technologies on large civil aircraft because, by their nature, the aircraft can potentially fly anywhere, including to countries proscribed by U.S. law, regulation and policy from receiving access to U.S. defense articles and technical data. As a result, Boeing has a policy of excluding the use of ITAR-controlled articles and technical data on its large civil aircraft, and has developed rigorous internal procedures to ensure that this does not occur. Boeing applied this policy to the 787, the aircraft the EC alleges was aided most by DoD RDT&E activities, in order to ensure that the 787 incorporates only technologies with a proven civil origin.

78. Finally, even if the EC had succeeded in demonstrating that there was a feasible civil use for knowledge Boeing obtained during performance of a DoD RDT&E contract, such a use would not satisfy any of the criteria for finding a subsidy. It is not a financial contribution. Nor is there a benefit. The existence of knowledge synergies between different business units of a company does not confer a benefit. Such knowledge is, like any other experience that a commercial actor develops in the course of its business, a normal part of commercial relationships.

A. DoD Engages in RDT&E to Develop Technologies for Military Purposes at the Lowest Possible Cost.

79. DoD conducts RDT&E activities to develop technologies that have military value because that is how the armed forces view technology, as a tool to carry out their mission of national defense. For example, the most recent U.S. Air Force Strategic Plan states with regard to R&D:

The Air Force always has been and always will be an innovative high-tech force. It is vital that we understand and advance those R&D investments *most critical to producing the aircraft, weapons, C4ISR, and other systems* on which we and our Joint and interagency partners rely.⁶⁷

The Air Force Vision Statement, which together with other strategic planning documents forms the basis for planning of the Air Force science and technology budget, calls for a similar focus on warfighting technologies in future innovation activities:

Worldwide advances in air, space, and anti-access technologies will make more capable enemies in the near future. We will face attempts to overcome our advantages in air and space. Airmen

⁶⁷ Air Force Strategic Plan 2006-2008, p. 18 (Exhibit US-17) (emphasis added).

know how to keep the enemy off balance and on the run. They will harness and apply technology to develop new capabilities, just as they developed stealth, precision weapons, unmanned aerial vehicles, and space systems in the past.⁶⁸

Planning documents such as these set objectives for future warfighting capabilities. DoD decides how to target technology development by first identifying gaps between those objectives and existing capabilities, and understanding what science and technology can provide to close those gaps. Since DoD views technology in terms of advancing warfighting capabilities, it does not invest in non-military technologies, such as civil technologies.

80. DoD maintains a large internal staff of scientists to advance these objectives. Its largest operation for aeronautics research is the Air Force Research Laboratory (“AFRL”), which employs approximately 5400 people.⁶⁹ AFRL states its mission as:

leading the discovery, development and integration of affordable warfighting technologies for America’s aerospace forces. . . . AFRL leads a worldwide government, industry and academia partnership in the discovery, development and delivery of a wide range of revolutionary technology. The laboratory provides leading-edge warfighting capabilities keeping our air, space and cyberspace forces the world’s best.⁷⁰

DoD also maintains other research operations, such as the Naval Research Laboratory. For research work that will benefit from outside expertise, DoD contracts with universities, other federally funded laboratories and agencies, and private contractors. Under these arrangements, the contractor puts its scientists and engineers at DoD’s disposal. In effect, these contractor employees work under DoD’s direction, just as do the employees of DoD’s own laboratories, with the same objective – advancing warfighting capabilities.

81. Where DoD believes that a particular research project may have applicability beyond the contracting authority’s needs, it typically funds the project through a “cooperative agreement,” “other transaction,” or “technology investment agreement.” These contractual vehicles generally require the contractor to match the government funding with its own funding, and do not allow for any profit on the part of the contractor. Thus, where a DoD agency, such as the Air Force, considers that a project has applicability beyond that agency’s interests, it seeks contributions toward development costs from the contractor.

⁶⁸ *Beyond*, p. 19 (Exhibit US-18).

⁶⁹ Fact Sheet: Air Force Research Laboratory, p. 1 (March 2007) (Exhibit US-19).

⁷⁰ Fact Sheet: Air Force Research Laboratory, p. 1 (March 2007) (Exhibit US-19).

82. The EC asserts that “{a} significant portion of DOD’s RDT&E Program focuses on military R&D.”⁷¹ This is incorrect. *All* of DoD’s RDT&E Program focuses on technologies expected to advance DoD’s military objectives. The EC then goes on to assert that “much of the technology developed through DOD’s RDT&E Program is dual-use technology that helps fund the development of Boeing’s LCA.”⁷² This is also untrue.

83. DoD has indeed entered into contracts for what it characterizes as “dual use” technology. The EC seriously overstates their number and value, but more fundamentally mischaracterizes their objective and design. DOD has engaged in research under dual-use contracts to take advantage of civil research that has moved ahead or is moving ahead of military research. The objective is not to move military research into the civil sector, but rather to move civil research into the military sector. Moreover, with regard to contracts involving technologies that could theoretically lead to a civil application, the EC’s assertions are a wholesale exaggeration. The EC completely ignores the technological and legal impediments to using military-origin technology on large civil aircraft, even if the technology had theoretical civil applicability.

84. Finally, the EC ignores that DoD has voluminous regulations designed precisely to ensure that it does not pay more than a reasonably remunerative price for contracted research from outside suppliers (like Boeing), so that, even if the purchases could be characterized as a financial contribution (a proposition with which we disagree), the programs conveyed no benefit within the meaning of Article 1.2. Thus, the EC has failed to make a *prima facie* case that the DoD RDT&E Program conveyed a subsidy to Boeing’s production of large *civil* aircraft.

B. DoD Purchases of RDT&E Services from Boeing Are Not Actionable Subsidies.

85. DoD pays for the RDT&E services that it contracts with private parties, including Boeing, and receives in exchange research results and intellectual property rights to use for its own purposes. DoD gets good value for its money, while private contractors, including Boeing, receive consideration for their efforts.

86. The EC, however, argues that these contracts are in fact grants, and that the military technologies they develop are in fact “dual use” technologies that make a “direct contribution” to Boeing’s production of large civil aircraft.⁷³ Based on these unfounded and unsupported propositions, it argues that DoD RDT&E confers a benefit within the meaning of Article 1.2 on Boeing’s large civil aircraft. The EC then argues that this benefit is specific because it is available only to enterprises that can perform research, development, or RDT&E management support.

⁷¹ ECFWS, para. 665.

⁷² ECFWS, para. 665.

⁷³ ECFWS, para. 675.

87. Every step in this chain of reasoning is wrong. What is more, the evidence cited by the EC disproves the very points the EC tries to make, and establishes that the EC has not met its burden of proof. The only DoD payments to Boeing for research projects are through contractual vehicles under which DoD pays money (and in some instances other forms of remuneration) in exchange for Boeing conducting research, development, testing, and evaluation for government purposes. There is no “grant” within the meaning of Article 1.1(a)(1)(1). In fact, there is no financial contribution at all, as DoD contractual research is a purchase of services, a type of transaction excluded from the definition of a financial contribution in Article 1.1(a).

88. However, leaving aside that these purchases do not provide a financial contribution, they do not confer a benefit within the meaning of Article 1.2 because Boeing conducts research and provides the data, technical outcomes, and intellectual property rights to the government and receives payment from DoD commensurate with those services. Therefore, Boeing does not obtain more than adequate remuneration from DoD.

89. In any event, DoD RDT&E is not specific. DoD researches topics in a vast number of areas, and with a vast number of enterprises. Access to DoD research contracts is available to any enterprise that meets the objective criteria of ability to perform the task set by DoD and provides the best bid for the contract. For this reason as well, the EC has failed to establish a *prima facie* case.

1. DoD’s RDT&E contracts are not a financial contribution.

90. Although the EC devotes a great deal of attention to estimating *how much* DoD pays for Boeing research, it essentially ignores the question of *how* DoD pays. These omissions are fatal for its claim of a financial contribution under Article 1.1(a)(1); the question of *how* determines whether there is a financial contribution, as well as what type of financial contribution it is. In fact, the only analysis the EC provides on this point is to assert that “DoD directly transfers funds in the form of grants to Boeing.”⁷⁴ It cites no evidence and provides no legal analysis in support of this statement. However, in support of other parts of its argument, the EC does submit the contracts⁷⁵ through which DoD engaged Boeing to perform the research in question, which, as explained below, show conclusively that under these instruments, DoD purchased research services from Boeing. As also explained below, further contracts and agreements included among the U.S. exhibits support the same conclusion. Research is a service, which

⁷⁴ ECFWS, para. 762.

⁷⁵ The EC has adopted the common practice of referring to all of DoD’s contractual vehicles for obtaining RDT&E (except grants) as “contracts,” which reflects that they are legally binding commitments to provide money in exchange for something else of value. Under U.S. government contracting law, some of these instruments are formally termed “contracts,” and others “other transactions,” “cooperative agreements,” or “technology investment agreements.” To avoid confusion, we will use the term “procurement contract” to refer to the contractual vehicle formally called a “contract” under U.S. government procurement law and the term “contracts” to refer collectively to procurement contracts and the various other types of agreements.

accordingly makes these contracts purchases of services. As we explained in Part II, Section A, purchases of services are not financial contributions for purposes of Article 1.1(a)(1). Therefore, the only evidence on the Panel record regarding the nature of these transactions establishes that they are not a financial contribution, and that no subsidy exists. The Panel’s review of the entire issue should end there.

91. The EC submitted ten procurement contracts in which DoD agreed to pay money in exchange for Boeing’s commitment to “conduct research” in accordance with a detailed “statement of work” that laid out exactly what Boeing was supposed to do, and in what order.⁷⁶ The procurement contracts provided that DoD would make payments no greater than costs incurred by the contractor plus a “fee,” which provides a profit incentive.⁷⁷ They also made clear that DoD would make payments when the contractor performed the specified work.⁷⁸ Boeing was also required to submit a final report detailing the results of the research even if the contract was terminated early. Contracts may also provide for presentations by the contractor to DoD personnel, and require the delivery of any presentation materials to DoD.⁷⁹ Thus, it is clear that DoD did not provide “grants” to Boeing. It was purchasing the service of “conducting research” and drafting reports on the results.

92. The EC also submitted six other funding vehicles – cooperative agreements, other transactions, and technology investment agreements.⁸⁰ Like the procurement contracts, these instruments typically committed Boeing to a coordinated research and development program in accordance with a detailed statement of work.⁸¹ These agreements set a schedule for performance of research, and tied payments to completion of the requisite tasks.⁸² The agreements specified that costs would be governed by the same rules applicable to contracts,⁸³ and that Boeing would provide a final report, as well as quarterly reports and reports upon the achievement of certain milestones.⁸⁴ There are a few important differences, most notably that the agreements require Boeing to contribute its own funds to the project, usually in an amount

⁷⁶ Procurement Contract F33615-91-C-5716, pp. 1-15 (Exhibit EC-507).

⁷⁷ Procurement Contract F33615-91-C-5716, p. 15 (Exhibit EC-507).

⁷⁸ Procurement Contract F33615-91-C-5716, p. 15 (Exhibit EC-507).

⁷⁹ Procurement Contract F33615-91-C-5716, p. 15 and Contract Data Requirements List, pp. 6-8 and 10-11 (Exhibit EC-507).

⁸⁰ For the sake of simplicity, in this submission we will use the term “agreement” to refer to the contractual vehicles variously known under U.S. government contracting law as cooperative agreements, other transactions, technology investment agreements, and research and development cooperative agreements.

⁸¹ *E.g.*, Agreement F33615-95-2-5051, Article 9B (Exhibit EC-513).

⁸² *E.g.*, Agreement F33615-95-2-5051, Article Arts. 17 and 28 and Attachments 1 and 2 (Exhibit EC-513).

⁸³ *E.g.*, Agreement F33615-95-2-5051, Article 13 (Exhibit EC-513).

⁸⁴ *E.g.*, Agreement F33615-95-2-5051, Articles 25 and 29 (Exhibit EC-513).

equal to or greater than the government contribution.⁸⁵ While the structure is somewhat different than a contract, the outcome is the same – the contractor commits to conduct research services useful to the government, and to share the results with the government. Thus, it is clear that the government is not providing grant to the contractor and is, instead, engaging the contractor to perform research of interest to the government for government purposes.

93. The additional RDT&E contracts that we include with this submission confirm that conclusion. For example, each of the following contracts requires the performance of research for DoD:

- Agreement F33615-03-2-3304 calls for managing the program, assessing current practice, defining military and commercial baseline vehicles, developing plans, developing an algorithm, and then designing, prototyping, and testing and operating system.⁸⁶
- Contract N00019-95-C-0071 calls for the identification of avionics design characteristics, creation of a virtual environment, definition of a comprehensive plan, development of a design concept, and application of the process to avionics trade studies.⁸⁷
- Contract N00019-01-C-0133 calls for refining the air system and architecture design for the Joint Strike Fighter, refining the system engineering processes and tools, planning integration of the engine program, maturing autonomous logistics, developing a simulation-based acquisition approach and digital product definition, refining methods for testing, evaluating, and verifying the system, and verifying the virtual enterprise information technology system.⁸⁸
- Contract F33615-94-C-3400 calls for developing and demonstrating extended life tires and extended life tire technologies, analytical life prediction tools, and new laboratory wear test methods.⁸⁹
- Contract F33615-94-C-3007 calls for “research, detailed engineering design, analysis, and documentation as necessary to accomplish tasks in the following technical areas.”⁹⁰

⁸⁵ E.g., Agreement F33615-95-2-5051, Article 19 (Exhibit EC-513).

⁸⁶ Agreement F33615-03-2-3304 (Exhibit US-694).

⁸⁷ Contract N00019-95-C-0071, p. 4 (Exhibit US-616).

⁸⁸ Contract N00019-01-C-0133, p. 33 (Exhibit US-617).

⁸⁹ Contract F33615-94-C-3400, p. 25 (Exhibit US-622).

⁹⁰ Contract F33615-94-C-3007, p. 24 (Exhibit US-623).

- Contract F33615-94-C-5009 calls for definition of preliminary requirements for materials and designs used in high-temperature sealing systems for advanced gas turbine engine liquid lubricants, selection of candidate materials, screening tests of those materials, and endurance tests for materials that pass the screening.⁹¹
- Contract F33615-93-C-4302 calls for the program “to develop, demonstrate, and implement improvements in the design and manufacturing producibility required to affordably produce large, complex, high-quality welded titanium fighter airframe assemblies, that in turn, improve structural reliability and weight performance.”⁹²
- Agreement F33615-98-2-5113 calls for research to “demonstrate and validate the production readiness of a nondestructive evaluation system by producing and demonstrating a full-scale prototype unit in a production environment and then validating the design through cost analysis and field testing.”⁹³

94. In each of these contracts, DoD pays Boeing to perform research requested by a DoD agency and to provide the results to the agency. The research, development, and testing activities that the EC describes clearly fall within the definition of “service.” The ordinary meaning of “service” as used in Article 1.1(a)(1)(iii) is “{t}he sector of the economy that supplies the needs of the consumer but produces no tangible goods, as banking or tourism.”⁹⁴ These contracts clearly involve the provision of services, in that Boeing engaged in activities that did not provide finished goods to DoD.⁹⁵

95. It is also significant that Research and Development Services, including R&D services on natural sciences, are also one of the “sectors” with regard to which WTO Members may undertake commitments under the General Agreement on Trade in Services,⁹⁶ indicating that they are services for purposes of the GATS. Research and development is similarly categorized in the United Nations Provisional Central Product Classification.⁹⁷ R&D is also widely

⁹¹ Contract F33615-94-C-5009, p. 23 (Exhibit US-627).

⁹² Contract F33615-93-C-4302, p. 3 (Exhibit US-634).

⁹³ Agreement F33615-98-2-5113, p. 21 (Exhibit US-636).

⁹⁴ *The New Shorter Oxford English Dictionary*, p. 2789 (Exhibit US-14).

⁹⁵ There are some instances in which Boeing supplied “test articles,” such as a sample of a material or a component, pursuant to research contracts. However, the test articles were intended solely to demonstrate the results of the research, and were not finished goods for use by DoD.

⁹⁶ Services Sectoral Classification List, MTN.GNS/W/120, p.2, sector 1.C.

⁹⁷ Provisional Central Product Classification, United Nations Statistical Papers, Series M, No. 77, 1991. (Exhibit US-375). All of the challenged measures fall under CPCprov code 851 - Research and experimental development services on natural sciences and engineering, and in particular CPCprov code 85103 - Research and

classified as a service under national procurement regimes. For example, the U.S. government procurement regime classifies “Research and development” as a service under Federal Service Classification Code A, which is then further divided into subcodes based on the area of research.⁹⁸ The EC similarly treats R&D as a service under Division 73 of its “Common Procurement Vocabulary.”⁹⁹ Therefore, these contracts and agreements represent purchases of services by the government and, therefore, are not financial contributions under the SCM Agreement.

96. It is equally clear that the instruments under which DoD paid money for these services represented “purchases.” Under the contracts, DoD paid money and, in some cases, provided equipment and testing facilities for Boeing to conduct research into specified areas and provide the results to DoD in the form of reports and briefings. In order to qualify for payment, Boeing had to prove that it actually engaged in the promised activities and incurred the costs for which it was being paid. Thus, the government conferred something of value in exchange for the recipient agreeing to supply a service. This exchange constitutes a purchase of a service and, therefore, is not a financial contribution for purposes of the SCM Agreement.

97. Under the agreements, the exchange of value works somewhat differently. DoD and the contractor *both* put forward resources to achieve a common goal for the benefit of both. These vehicles are typically used only for basic, applied, and advanced research in which DoD plans to have substantial involvement. DoD’s contribution secures the research efforts and separate resource contribution of Boeing, along with the results of the research. Under an agreement, like a contract, the government confers something of value in exchange for the recipient agreeing to supply a service. This constitutes a purchase of a service and, therefore, is not a financial contribution for purposes of the SCM Agreement.¹⁰⁰

⁹⁷(...continued)

experimental development services on engineering and technology, including research and experimental development services on applied science and technology for casting, metal, machinery, electricity, communications, vessels, aircraft, civil engineering, construction, information, etc.

⁹⁸ Federal Service Classification Code A, *available at* <http://www.fedbizopps.gov/classCodes2.html> and <http://cbdnet.gpo.gov/class.html> (Exhibit US-20).

⁹⁹ EC Common Procurement Vocabulary, Division 73, contained in Commission Regulation No. 2151/2003 (16 December 2003), OJ L 329, p. 164 (Exhibit US-21). The CPV is used to categorize the procurement activities carried out by the EC and its Member States.

¹⁰⁰ For purposes of U.S. government procurement law, contracts are used only when the principal purpose is the acquisition of supplies or services for the direct benefit or use of the federal government, such as a project for the development of specific deliverable items. An agreement should be used when the principal purpose is to support research and development for other public purposes, such as basic, applied, and advanced research. 32 C.F.R. § 22.205(a) (Exhibit US-33); 48 C.F.R. § 35.003 (Exhibit US-34). An agreement will often have a clause specifying that its principal purpose is not the acquisition of goods or services for direct use by the U.S. government. *E.g.*, Contract F33615-95-2-5051, Article 2.C (Exhibit EC-513). This recitation reflects that the contract does not have as its immediate goal the development of a particular technology for a particular weapon system. It is not

(continued...)

98. These documents also demonstrate that the EC is mistaken in its view that DoD made financial contributions to Boeing's large civil aircraft division, because the relevant payments were not made to BCA. The contracts cited by the EC indicate clearly that the counterpart on each contract was the "Boeing Defense and Space Group," "Boeing Information, Space, and Defense Group," "McDonnell Douglas Corp.," or "McDonnell Douglas Corp., a wholly-owned subsidiary of The Boeing Company."¹⁰¹ None of these entities produce (or produced) large civil aircraft for Boeing. Under DoD accounting rules, any payments on these contracts would go to the relevant accounting segment (in Boeing's current structure, its defense contracting division, IDS) where they would be used to reimburse any applicable costs. This segment would pass any profits along to the corporate headquarters. Headquarters did not direct IDS profits from IDS to BCA. Thus, DoD contributed no funds to Boeing's large civil aircraft division.¹⁰²

99. On this basis alone – that contracts for the purchase of services are not a financial contribution – the EC has made a claim that has no relief under the SCM Agreement.

2. *DoD RDT&E contracts do not confer a benefit on Boeing.*

100. Assuming *arguendo* that these contracts were a financial contribution, the EC has not met its burden of proof with regard to the existence of a benefit. The EC's argument with regard to the existence of a benefit rests on a single proposition, for which the EC provides no support: that "Boeing is not required to pay anything in return for this RDT&E Program funding and

¹⁰⁰(...continued)

meant to reflect on the nature of the effort by the private party. In any event, the Appellate Body has found that "municipal law classifications are not determinative" as to whether a measure is a financial contribution. *US – Softwood Lumber CVD (AB)*, para. 56.

¹⁰¹ McDonnell Douglas Corp. maintains a legal existence as a wholly owned subsidiary of Boeing for purposes of some government contracts. However, it does not engage in production or development of large civil aircraft.

¹⁰² The EC first written submission attempts to create the impression that "recoupment" of the cost of dual use technology by means of a charge against the sale of large civil aircraft is either required or the norm for DoD. ECFWS, para. 669 *et seq.* It is not. The EC first cites the Tokyo Round *Agreement on Trade in Civil Aircraft* for the proposition that "a portion of the cost of dual-use military R&D should be factored into the pricing of civil aircraft." But the text does not use the term "dual-use," and actually applies only to *identifiable* costs of research and development that *are subsequently applied* to the production of civil aircraft. As indicated above, and described more fully below, that category is much, much smaller than the EC would have the Panel believe. In any event, the more important point is that the EC has not made a claim of inconsistency with the Civil Aircraft Agreement. Even if it had brought such a claim, the use of "should" indicates that the provision is hortatory, and not a binding obligation.

The EC also attempts to find support for its view in DoD's old "recoupment" policy, which terminated in 1992. As the document cited by the EC reveals, that policy would apply to a civil aircraft only if it had ten percent commonality with an item on the U.S. munitions list that cost more than \$200 million to produce. Even the EC, with all its exaggeration of potential dual uses for military technology, does not claim a ten percent commonality between Boeing civil aircraft and DoD fighters, bombers, or special service freight planes. Therefore, the old recoupment policy is irrelevant.

support.”¹⁰³ The EC asserts that for this reason, “the entirety of the financial contributions to Boeing’s LCA division can be considered to confer benefits,”¹⁰⁴ and concludes that “{i}t is axiomatic that such R&D funding and support, which provide commercial rewards for nothing in return, are not available on the market.”¹⁰⁵ Not only does the EC fail to provide any support for these assertions, but the documents that it does cite (albeit in support of other propositions) actually demonstrate that DoD RDT&E contracts did not confer a benefit on Boeing.

101. At its most basic, the EC’s argument that Boeing “pays” nothing to DoD in return for RDT&E funding is a *non sequitur*. Commercial contracts typically involve an exchange of value for value, rather than a simple exchange of money. In this case, the contracts cited by the EC are quite clear on what Boeing “pays” DoD for the funds it receives. Using Procurement Contract F33615-91-C-5716 (Exhibit EC-507) as an example, a procurement contract for research and development service requires Boeing to provide the following valuable services and rights to DoD:

- conduct research for DoD in accordance with a statement of work generated by DoD;¹⁰⁶
- obtain the approval of the DoD Contracting Officer before modifying the scope of that research in any way;¹⁰⁷
- make presentations to DoD personnel as required (in this case, including up to 500 vugraphs);¹⁰⁸
- grant the government a paid-up license for use by or on behalf of the United States of any patent developed by a Boeing employee while working on the contract;¹⁰⁹
- grant DoD rights to use any data developed under the contract (in this case, unlimited rights to use data produced for the contract, government purpose rights for items developed with mixed funding, and limited rights for data created

¹⁰³ ECFWS, para. 764.

¹⁰⁴ ECFWS, para. 765.

¹⁰⁵ ECFWS, para. 766.

¹⁰⁶ Contract F33615-91-C-5716, p. 2 (Exhibit EC-507).

¹⁰⁷ Contract F33615-91-C-5716, p. 19 (Exhibit EC-507).

¹⁰⁸ Contract F33615-91-C-5716, CDRL, p. 2 (Exhibit EC-507).

¹⁰⁹ 48 CFR § 52.227-12(b), incorporated in Contract F33615-91-C-5716, p. 27 (Exhibit EC-507).

exclusively at private expense);¹¹⁰ and

- provide scientific and technical reports (in this case, interim reports for each phase of the project, as well as a final report and a video presentation).¹¹¹

102. Using Agreement 33615-96-2-5051 (Exhibit EC-513), as an example, an agreement would require Boeing to provide the following services and rights to DoD:

- perform a coordinated research and development program carried out in accordance with a statement of work;¹¹²
- obtain DoD approval before modifying the scope of that research in any way;¹¹³
- conduct quarterly technical meetings with government personnel;¹¹⁴
- commit to use an amount of its own money (here \$4.3 million) for authorized purposes of the agreement, consistent with applicable cost principles;¹¹⁵
- grant the government a paid-up license for use by or on behalf of the United States of any patent developed by a Boeing employee while working on the contract;¹¹⁶
- grant the government rights to use any data developed under the contract (in this case, rights for immediate government internal and unlimited use rights within three years of termination of the agreement);¹¹⁷ and
- provide scientific and technical reports (in this case, quarterly technical status reports, special technical reports upon certain achievements, and a final technical

¹¹⁰ 48 CFR § 252.227-7013(b), incorporated in Contract F33615-91-C-5716, CDRL, p. 28 (Exhibit EC-507). Section V.C explains the meanings of these various allocations of data rights in more detail.

¹¹¹ Contract F33615-91-C-5716, CDRL, pp. 6-9 (Exhibit EC-507).

¹¹² Agreement 33615-96-2-5051, Article 9B (Exhibit EC-513).

¹¹³ Agreement 33615-96-2-5051, Article 9C (Exhibit EC-513).

¹¹⁴ Agreement 33615-96-2-5051, Article 9D (Exhibit EC-513).

¹¹⁵ Agreement 33615-96-2-5051, Article 19 (Exhibit EC-513).

¹¹⁶ 37 C.F.R. § 401.14(b) (Exhibit US-24), incorporated in Agreement 33615-96-2-5051, Article 22 (Exhibit EC-513).

¹¹⁷ Agreement 33615-96-2-5051, Article 23 (Exhibit EC-513).

report).¹¹⁸

103. Thus, whether under a procurement contract or agreement, when Boeing conducts research for the government, it “pays” DoD value commensurate with the funds expended. It puts Boeing’s scientists at DoD’s disposal, to conduct research designed by DoD. It reports periodically on results and makes presentations, educating DoD personnel on the outcome of the work. DoD’s patent and data rights mean that if another contractor on a subsequent government project (whether with DoD or any other government agency) needs to make use of the technology or data, it may do so without making any payment or receiving any permission from Boeing. Accordingly, it is plainly untrue to assert that Boeing pays nothing in return for government funding.

104. DoD ensures that it pays no more than adequate remuneration for its purchases in the RDT&E contracts at issue in this dispute by reimbursing the contractor – Boeing – only enough to cover the costs that Boeing actually incurred in conducting the research activities subject to the contract. Thus, each payment from DoD to Boeing merely counterbalances a payment from Boeing to its suppliers of goods and services, including to the employees who worked on the projects. In procurement contracts, there may also be some form of incentive payment (“fee” in U.S. government procurement terminology) designed to allow contractors to profit when they fulfill the contract. Without the fee, government cost-based contracts would be a break-even proposition at best, and agencies would have difficulty finding suppliers. Indeed, profit on the part of the seller is fundamental to any commercial transaction.¹¹⁹

105. The profit from these arrangements is at a commercial level, as demonstrated by a comparison of profit margins registered by BCA and IDS (and their predecessors). BCA was more profitable than IDS for 13 of the 17 years from 1991 to 2006, and also on average over the entire period. If the EC were correct that DoD was paying Boeing “excessive and unwarranted award and incentive fees,”¹²⁰ then BCA (which does not have cost-type contracts with DoD) should have had a lower profit margin than IDS and its predecessors. In fact, in most years and on average, BCA’s profits were higher than IDS’s. This is strong evidence that DoD contracts are not excessively profitable.¹²¹

106. This system ensures that purchases of goods by DoD and other U.S. government agencies do not convey a benefit to contractors within the meaning of Article 1.1(b). Article 14, which the Appellate Body has used as context for understanding how to identify a “benefit,” provides

¹¹⁸ Agreement 33615-96-2-5051, Articles 25.A, 27, and 29 (Exhibit EC-513).

¹¹⁹ Cooperative agreements, other transactions, and technology investment agreements do not provide for any sort of fee. Under those instruments, the incentive for private participation is the opportunity to share the cost of developing some technology of mutual interest to both the contractor and the government.

¹²⁰ ECFWS, para. 672.

¹²¹ Comparison of profit margins, BCA vs. other Boeing units (Exhibit US-25).

that the purchase of a good conveys a benefit only to the extent that it provides the seller more than adequate remuneration. The Article specifies further that, with regard to purchases of goods or provision of goods or services, “adequacy of remuneration shall be determined in relation to prevailing market conditions for the good or service in the country of provision or purchase (including price, quality, availability, marketability, transportation and other conditions of purchase or sale).”¹²²

107. As we noted in Part II, Section B, this standard for measuring a benefit covers only the government purchase of a good, or provision of a good or service, thereby emphasizing that purchase of a service, such as R&D, is not a financial contribution for which determination of a benefit is necessary. However, if DoD’s RDT&E contracts were assumed *arguendo* to constitute financial contributions, the standard set out in Article 14(d) would provide useful context for confirming there was no benefit in light of the fact that Boeing received no more than adequate remuneration for its work.

108. U.S. government procurement law ensures that U.S. government agencies base the contract value (and any payments under the contract) on the cost incurred by the contractor, plus a fee, if provided under the contract. The regulations allow payment of costs only to the extent that the contractor actually incurs the cost in performance of the contract. The contractor generally receives the fee – if any – as it incurs the underlying costs. In some cases, these may be paid upon reaching certain progress benchmarks or based on a determination of the quality of the contractor’s performance.

109. For cost-reimbursement procurement contracts with commercial suppliers like Boeing, the relevant rules appear at 48 C.F.R. § 16.307(a)(1), which requires the insertion of clause 52.216-7 in any contract with a private supplier of goods or services.¹²³ That clause provides:

(b) *Reimbursing costs.* (1) For the purpose of reimbursing allowable costs (except as provided in paragraph (b)(2) of the clause, with respect to pension, deferred profit sharing, and employee stock ownership plan contributions), the term costs includes only--

(i) Those recorded costs that, at the time of the request for reimbursement, the Contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract;

(ii) When the Contractor is not delinquent in paying costs of

¹²² SCM Agreement, Art. 14(d).

¹²³ 48 C.F.R. § 16.307 (Exhibit US-26). There are special rules for educational institutions, state and local governments, and nonprofit organizations that do not apply to Boeing.

contract performance in the ordinary course of business, costs incurred, but not necessarily paid, for--

(A) Supplies and services purchased directly for the contract and associated financing payments to subcontractors, provided payments determined due will be made--

(1) In accordance with the terms and conditions of a subcontract or invoice; and

(2) Ordinarily within 30 days of the submission of the Contractor's payment request to the Government;

(B) Materials issued from the Contractor's inventory and placed in the production process for use on the contract;

(C) Direct labor;

(D) Direct travel;

(E) Other direct in-house costs; and

(F) Properly allocable and allowable indirect costs, as shown in the records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts; and

(iii) The amount of financing payments that have been paid by cash, check, or other forms of payment to subcontractors.¹²⁴

Thus, a contractor receives money under a procurement contract only if it has (1) actually expended money in payment of the cost or (2) performed activity related to the contract that will require it to pay money, such as assigning employees to perform direct labor that will subsequently be paid as salary to the employee.

110. Thus, there is a one-for-one match between payments from DoD to Boeing under the contract and outflow from Boeing to the suppliers of goods and services used in complying with the contract. The prices that Boeing pays to its suppliers are, in turn, largely set by market forces. For example, the largest expense on an RDT&E contract is typically the direct labor of the scientists and engineers who perform the research. Boeing pays its scientists, engineers, and other workers market salaries and benefits. Any supplies consumed in performance of the contract will typically be purchased from external suppliers (who also charge market prices) or

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

produced internally, in which case the DoD will base its payment either on the actual cost of producing the input or, if the input is commercially traded, on the price that Boeing charges other customers. Assuming *arguendo* that these purchases of services constitute a financial contribution, by this process the United States would ensure that the remuneration on government contracts is “determined in relation to prevailing market conditions for the good or service in question” for purposes of Article 14.

111. The payment of fee works differently from contract to contract. The fee may be fixed at the outset (“fixed fee”), and paid under a preset schedule, or may vary based on the evaluation of a contractor’s performance (“award fee”). In some situations, a contract may have no fee. In no case is the fee more than adequate.

112. The reimbursement process for agreements follows the same general principles, but operates under different regulations. DoD favors reimbursement as the form of payment for an agreement with a for-profit organization, such as Boeing, requiring the contractor to request payment after the fact for costs incurred during a particular time period.¹²⁵ Advanced payments are permitted in limited circumstances.¹²⁶ In either situation, DoD determines cost allowability for companies under the same rules used in procurement contracts.¹²⁷ In the event that at the end of the agreement period, DoD has paid for more costs than the contractor has incurred, or if it later determines that it has overpaid, the contractor must repay the money.¹²⁸ There are some differences between procurement contracts and agreements. For example, agreements do not allow for payment of a fee.¹²⁹ Another difference is that there is no standard agreement clause for how DoD pays contractors, which means that different agreements may use different language. However, all agreements comply with the regulations.

113. As with contracts, this process ensures that DoD’s payments to the contractor are no greater than the contractor’s expenditure on costs related to the contract. And again, the market determines those costs because the contractor must, in almost all cases, pay a market price for the materials, labor, and other items that it purchases for use in carrying out the contract.

114. The evolution of contract activities and payments provides a further illustration of how DoD tracks the payments to the work that the contractor actually performs on the contract and the absence of any “benefit” under the SCM Agreement. Contract F33615-91-C-5720 provides a good example. The objective of the effort was “to develop the integrated design and manufacturing technology necessary to reduce the acquisition and support costs of advanced

¹²⁵ 32 C.F.R. § 34.12(a)(1) and (b)(1) (Exhibit US-28).

¹²⁶ 32 C.F.R. § 34.12(b)(2) (Exhibit US-28).

¹²⁷ 32 C.F.R. § 34.17(a) (Exhibit US-29).

¹²⁸ 32 C.F.R. §§ 34.61, 34.62, and 34.63 (Exhibit US-30).

¹²⁹ 32 C.F.R. § 22.205(b) (Exhibit US-22).

composite structures for aerospace vehicles.”¹³⁰ DoD divided the project into three phases. Phase I: assess potential manufacturing methods and select cost reduction concepts; Phase II: evaluate at least two manufacturing methods for each subcomponent, and Phase III: develop a prototype to compare with existing aircraft for handling threats like high energy impacts and repair under battle conditions.¹³¹ DoD estimated that the total project would come to \$11 million, composed of \$9.9 million in cost plus \$1.1 million in fee.¹³² DoD began by allotting \$400,000 for use in reimbursements, periodically increasing that amount with the passage of time: \$[[HSBI]] in January, 1992 and \$[[HSBI]] million in March, 1992.¹³³ In September 1992, DoD cut back allotted funds by \$[[HSBI]].¹³⁴ DoD continued to add money incrementally, but in March 1994, it reduced the work covered by the contract, cutting the estimated value by \$[[HSBI]].¹³⁵ DoD cut allotted funds by \$[[HSBI]] in March 1994,¹³⁶ but then in August 1995 changed its approach to Phase II to evaluate and reduce risks associated with various candidate technologies.¹³⁷ Although this temporarily increased the estimated value of the whole contract, DoD cancelled Phase III in July 1997, cutting the estimated value by \$[[HSBI]] million.¹³⁸

115. This brief history, which is characteristic of DoD contracts, demonstrates that DoD closely tracks the contractor’s activities, making money available periodically as the contractor engages in new activities, and subtracting money when it appears the contractor is running behind. DoD may adjust the work it requests, either to add activities or subtract them, changing the estimated value of the contract in proportion to changes in workload. In short, DoD pays only for the amount of work Boeing performs for DoD; that is, DoD pays no more than adequate remuneration for Boeing’s work.

116. The EC ends its argument on benefit with an “axiom,” namely, that DoD’s purchases of R&D, “which provide commercial rewards for nothing in return, are not available on the market.”¹³⁹ This “axiom,” too, is untrue. In its civil aviation division, Boeing also conducts research aimed at developing new products. Its recovers the cost of that research through revenue gained from selling aircraft to customers, who are in every real sense funding the research. Technology developed in this effort does sometimes have military application.

¹³⁰ Contract F33615-91-C-5720, p. 3 (Exhibit EC-508).

¹³¹ Contract F33615-91-C-5720, pp. 6, 15, and 23 (Exhibit EC-508).

¹³² Contract F33615-91-C-5720, p. 39 (Exhibit EC-508).

¹³³ Contract F33615-91-C-5720, Modification P2 (Jan. 16, 1992) and Modification P3 (March 13, 1992) (Exhibit US-31).

¹³⁴ Contract F33615-91-C-5720, Modification P4, p. 2 (March 13, 1992) (Exhibit US-31).

¹³⁵ Contract F33615-91-C-5720, Modification P20, p. 2 (Exhibit US-31).

¹³⁶ Contract F33615-91-C-5720, Modification P9, p. 2 (Exhibit US-31).

¹³⁷ Contract F33615-91-C-5720, Modification P12, p. 10 (August 1995) (Exhibit US-31).

¹³⁸ Contract F33615-91-C-5720, Modification P18, p. 2 (July 30, 1997) (Exhibit US-31).

¹³⁹ ECFWS, para. 766.

However, these customers do not insist that Boeing reimburse them when it uses civil technology on military products. Rather, they recognize that this sort of “spillover” of knowledge is a natural outcome of a commercial business relationship. Thus, even if a DoD RDT&E contract resulted in a true dual-use technology, and that technology was not barred from use on large civil aircraft by U.S. export laws, that rare example of such military-to-civil synergy would be completely commercial in nature.

117. In short, the purchase of research services by DoD does not convey any benefit to Boeing, a fundamental truth that is not changed by the EC’s assertions regarding supposed dual-use technology.

3. DoD RDT&E contracting is not specific, because DoD enters into such contracts in a broad range of topics and with a broad range of contractors.

118. The DoD RDT&E program covers a huge number of areas, and involves a huge number of companies, universities, and other research entities. The authorities cited by the EC merely serve to demonstrate this point, and also to demonstrate further that the program is not specific.

119. As the EC notes, DoD may grant an RDT&E contract for any activity that falls into the following categories: (1) basic research; (2) applied research; (3) advanced technology development; (4) advanced component development and prototypes; (5) system development and demonstration; (6) RDT&E management support; and (7) operational system development.¹⁴⁰ The EC then asserts that “these activities may be performed only by a limited number of enterprises,” namely, those capable of conducting scientific experimentation, developing and integrating subsystems and systems, evaluating and testing technologies, or upgrading existing systems.¹⁴¹ However, the EC ignores that the very regulation from which it takes its list of permitted RDT&E activities states quite plainly that they are “broad categories reflecting different types of RDT&E efforts.”¹⁴² Basic research alone may lead to “new and improved military functional capabilities in areas such as communications, detection, tracking, surveillance, propulsion, mobility, guidance and control, navigation, energy conversion, materials and structures, and personnel support.”¹⁴³ This broad variety of activities by itself establishes that the definition of RDT&E is not limited to an enterprise or industry or group of enterprises or industries.

120. DoD’s summaries of its research activities, on which the EC relies, provide further examples of the breadth of DoD’s RDT&E interests. The summaries break DoD RDT&E into ten main categories: aircraft, electronics and communications systems, miscellaneous, missile

¹⁴⁰ ECFWS, para. 767, citing DoD 7000.14-R, § 050201 (Exhibit EC-525).

¹⁴¹ ECFWS, para. 768.

¹⁴² DoD 7000.14-R, § 050201 (Exhibit EC-525).

¹⁴³ DoD 7000.14-R, § 050201 (Exhibit EC-525).

defense, missiles, ordnance and weapons, ships, space systems, classified, and vehicles. The “Miscellaneous” category encompasses a broad range of topics, among them technical information services; advanced marine biological systems; clothing, equipment, and shelter technology; environmental protection; corrosion; and human social and culture behavior modeling.¹⁴⁴ Thus, DoD conducts RDT&E activities related to almost all sectors of the economy.

121. The EC argues in the alternative that if the Panel finds the RDT&E program to be *de jure* non-specific, it should find the program to be *de facto* specific because “Boeing has received a disproportionate amount of RDT&E funding over the years.”¹⁴⁵ The EC, however, never explains exactly what Boeing’s RDT&E funding is disproportionate *to*. As noted in Part II, Section B, the proper comparison for a disproportionality analysis is with the baseline of potential recipients. In the case of DoD RDT&E, the most appropriate baseline would be the suppliers of the military systems, as those are the products that DoD seeks to develop through RDT&E. Boeing’s share of total RDT&E contracting from 1996 through 2006 was 13.6 percent, which is not disproportionate with its 11.5 percent share of total DoD purchases of supplies and equipment.¹⁴⁶ The EC also asserts that the top five RDT&E contractors had a 46.8 percent share of total RDT&E expenditures.¹⁴⁷ However, it fails to explain why this figure demonstrates anything about *Boeing*, or why this figure is “disproportionate” to something else. Thus, consideration of the “other factor” of proportionality does not suggest that DoD RDT&E is specific.

122. The actual amount of RDT&E spending in various sectors further demonstrates that DoD RDT&E is not specific to any particular industry. Aircraft accounted for only 9.1 percent of DoD RDT&E funding, with aircraft engines (which neither Boeing nor Airbus produce) accounting for 11.8 percent. Electronics accounted for 11.8 percent. Missiles and space accounted for 14 percent. And other areas of research – a category that encompasses a huge range of topics – accounted for 8.0 percent of DoD’s RDT&E spending.¹⁴⁸

123. The fallacy of the EC’s assertions of specificity is clear from the EC’s statement that “*all* RDT&E funding went to research-based defense and aerospace companies.”¹⁴⁹ In fact, DoD’s data on its contracting for RDT&E services show that in just one year (2006) thousands of

¹⁴⁴ PEs 0603709N, 0602723A, 0603105A, 0603721N, 0604016D8A, and 0602670D8Z.

¹⁴⁵ ECFWS, para. 770.

¹⁴⁶ Top DoD Contractors: Percentage of Contracting (Exhibit US-32). The EC cites 12.6 percent, for the 1991-2006 period. ECFWS, para. 770. The United States used data for the 1996-2006 period because that is the longest time for which DoD had available comprehensive data allowing a systematic comparison between the value of RDT&E contracts and contracts for supplies, and equipment.

¹⁴⁷ ECFWS, para. 770.

¹⁴⁸ DoD RDT&E Contract value by subject matter (Exhibit US-33).

¹⁴⁹ ECFWS, para. 770.

companies performed these services for DoD.¹⁵⁰ Even among DoD's top contractors, there are two universities (the Massachusetts Institute of Technology and Johns Hopkins), one consultancy (Booz Allen Hamilton), one construction company (the Bechtel Group), and Honeywell, a diversified company that gets less than 15 percent of its revenue from U.S. government sales.¹⁵¹ Hence, "research-based defense and aerospace companies" are not the sole participants in RDT&E activities. A *de facto* specificity analysis only reinforces the conclusion drawn from consideration of the *de jure* factors, that DoD RDT&E contracting is not specific.

C. The EC's Arguments About Potential "Dual Use" for Military Technologies Ignores Its Own Evidence of the Military Purpose of the RDT&E Activities at Issue.

124. Having failed to demonstrate that there is neither a financial contribution nor benefit to Boeing, the EC attempts to paint a picture of DoD surging forward in areas of advanced technology, carrying Boeing's large civil aircraft along with it, free of charge. However, the notion that the military is technologically ahead of the commercial sector is plainly an anachronism. That may have been true during World War II and the beginning of the Cold War, when the U.S. government did outspend the civil sector in research. However, that balance tipped 25 years ago. During the period subject to the EC claims, private industry outspent the DoD by factors of between two-to-one and five-to-one.¹⁵² As Under Secretary of Defense Jacques Gansler testified in 1998:

The Department plans to continue to increase its reliance on commercial technologies. In many cases, there is simply no choice. Commercial technologies, especially in the areas of electronics, advanced computing, communications and medical research are simply better than what we can develop on our own; and the gap will only grow as commercial industry continues to out-spend the Department in research and development in these critical technologies.¹⁵³

The electronics, computing, and communications technologies that Under Secretary Gansler highlighted are critical for large civil aircraft. But in aeronautics, too, industry has moved ahead of DoD in the areas that are of commercial interest. That is why DoD plans to buy civil airframes for applications such as aerial tankers and the Navy's multi-mission aircraft.

¹⁵⁰ DoD RDT&E Contracts \$25,000 or Greater, FY 2006 (Exhibit US-34).

¹⁵¹ DOD Reports on Top Contractors Receiving RDT&E Awards FY 1991-FY 2005, pp. 1-13 (Exhibit EC-529); Form 10-K, Honeywell International, pp. 7 and 20 (Feb. 16, 2007) (Exhibit US-35).

¹⁵² Historical Data on DoD vs. Civil R&D (Exhibit US-36).

¹⁵³ Statement of Under Secretary of Defense for Acquisition and Technology, Honorable Jacques S. Gansler, Subcommittee on Acquisition and Technology, Senate Armed Services Committee, p. 7 (March 12, 1998) (Exhibit US-37).

125. Thus, when DoD speaks of “dual use” technology it means one of two things: (1) an existing civil technology capable of adaptation to a military use; or (2) a technology in which DoD can use civil sector interest to obtain a contribution to development costs from civil sector companies. The goal is not to aid the civil sector in general, or large civil aircraft in particular. It is, instead, to get the civil sector to help DoD. As Undersecretary of Defense for Acquisition and Technology Paul Kaminski testified in 1996, around the height of enthusiasm for “dual-use” technology:

Leveraging the commercial sector, the essence of the dual-use strategy, gives us a tremendous opportunity to field advanced weapons both more quickly and affordably. The department’s dual-use strategy consists of three pillars

- invest in dual-use technologies critical to military applications
- integrate military and commercial production
- insert commercial components into military systems

The first pillar means leveraging the commercial sector’s base of research and technology to foster military useful technology. The second involves leveraging the commercial sector’s low-cost production capabilities by manufacturing commercial and military items on the same production lines. The third pillar requires creating the incentives and management approaches inside the DoD necessary to facilitate using these dual-use, dual-produced items in military equipment.¹⁵⁴

In either case, civil technology is a means to obtain a military objective for a lower cost.

126. The EC means something quite different when it uses the term “dual use.” It means any military technology with a “potential” civil use. Whether that use is realistic or practical is irrelevant to the EC’s analysis. As long as one of the EC’s consultants can conceive of some theoretical civil use for a military technology, the EC treats it as dual use, and assigns a greater share of its value to large civil aircraft than to military uses. The EC thus focuses on a technology flow that does not exist (from military to civil aviation) when plainly the flow is the reverse, and then assumes an applicability to large civil aircraft – an equally incorrect premise.

¹⁵⁴ Statement of Paul G. Kaminski, Undersecretary of Defense for Acquisition and Technology, Subcommittee on Acquisition and Technology, Senate Armed Services Committee, p. 5 (Mar. 20, 1996) (Exhibit US-38).

1. *The EC disregards evidence that the RDT&E projects identified in its submission were military in nature.*

127. There is no question that DoD engages in some research into “dual use” technologies to “leverage” evolving civil technologies into military applications. As the EC notes, it even had a small program (now discontinued) of that name, the “Dual Use Science and Technology Program.” The EC and its consultants, however, try to turn the concept around, treating it as military technology moving to the civil sector. They argue, based on hypothetical applications of military technology to civil applications, that a vast array of research programs in fact contribute to civil technology. On that basis they estimate a value for each program and attribute a significant fraction to Boeing’s production of large civil aircraft.¹⁵⁵

128. This effort by the EC is plagued with errors. The conclusions by its consultants, CRA, as to what projects are “dual use” are entirely superficial, based upon the presence in program descriptions of “buzz words” that indicate nothing about the actual relevance or even theoretical usefulness of the research in the civil sector. For example, the EC consultants identify projects as “dual use” any time the term “composites” appears.¹⁵⁶ But there are a broad array of composite materials, many of which have no practical application on large civil aircraft. A reference to “composites” represents – at best – a superficial similarity to the materials used on large civil aircraft. However, the EC ignores all information that indicates, with far more credibility, stated military applications of each program. Second, CRA fails to appreciate that most research – even most aeronautics research – is with contractors other than Boeing, universities, independent research laboratories, or DoD’s own internal labs. Third, CRA ignores the fact that the R&D summaries upon which it relies contain information that proves its methodology vastly overstates the actual amount that DoD pays for Boeing RDT&E services. Section C.2 deals with the second and third points in more detail.

a. The DoD contracts as issue underscore their military mission.

129. CRA’s characterization of DoD RDT&E activities is highly subjective, and highly inaccurate. CRA reviewed the summaries of RDT&E activities published by DoD each year, which divide RDT&E activities into “Program Elements” (“PEs”), and subdivides those into “projects.” CRA looked at descriptions of projects and concluded that some had *potential* civil applicability. The United States has already noted one flaw in this approach, namely that “potentially applicable” is not the same as “directly applicable” or “applicable in practice” and that as a legal matter potential or theoretical use does not constitute a financial contribution or a benefit. However, CRA errs further in disregarding the military focus of these program elements, which is clear from the description of the program elements on which CRA relies:

- *Defense Research Sciences (PE 0601102F)* – “This program consists of

¹⁵⁵ Exhibit EC-7, Appendices D and E.

¹⁵⁶ Exhibit EC-7, Appendix A, p. 6.

extramural research activities in academia and industry along with in-house investigations performed in the Air Force Research Laboratory. This program funds fundamental broad-based scientific and engineering research in **areas critical to Air Force weapons systems.**¹⁵⁷

- *Materials (PE 0602102F)* – “This program develops advanced materials, processing, and inspection technologies to reduce life cycle costs and improve performance, affordability, supportability, reliability and survivability of current and future Air Force systems and operations. . . . This program is in Budget Activity 2, Applied Research, since it develops and determines the technical feasibility and **military utility** of evolutionary and revolutionary technologies.”¹⁵⁸
- *Aerospace Vehicle Technologies (PE 0602201F)* – “Resulting technologies reduce life cycle costs and improve the performance of existing and future manned and unmanned aerospace vehicles. . . . This program is in Budget Activity 2, Applied Research, since it develops and determines the technical feasibility and **military utility** of evolutionary and revolutionary technologies.”¹⁵⁹
- *Aerospace Propulsion (PE 0602203F)* – The program has five projects, each focusing on a technology area **critical to the Air Force.**”
 - “high-speed airbreathing propulsion engines to include combined cycle, ramjet, and hypersonic scramjet technologies;”¹⁶⁰
 - “new fuels, lubricants, and combustion concepts and technologies for new and existing engines”;
 - “enhance performance and affordability of existing **weapon systems**”;
 - “efficient energy conversion/storage, power generation/power conditioning/distribution, and thermal management techniques for

¹⁵⁷ Exhibit R-2, RDT&E Budget Line Item Justification, 0601102F Defense Research Sciences, p. 1 (Feb. 2006) (Exhibit EC-419) (emphasis added).

¹⁵⁸ Exhibit R-2, RDT&E Budget Line Item Justification, 0602102F Materials, pp. 1-2 (Feb. 2006) (Exhibit EC-420) (emphasis added).

¹⁵⁹ Exhibit R-2, RDT&E Budget Line Item Justification, 0602201F Aerospace Vehicle Technologies, p. 1 (Feb. 2006) (Exhibit EC-421) (emphasis added).

¹⁶⁰ The inclusion of this project is especially inconsistent as the EC elsewhere acknowledges – repeatedly – that research into engines is *not* relevant to large civil aircraft and is not properly attributable to large civil aircraft. Exhibit EC-18, pp. 7, 10-12, 16-20. (The United States cites these pages only to show that the EC concedes that engine research should be excluded, and not to suggest that the EC calculations on those pages are correct. They are not.)

ground, air, and space **military applications**”; and

- “advances in **rocket technologies** for space access, space maneuver, and tactical and strategic missiles.”¹⁶¹
- *Aerospace Sensors (0602204F)* – “Advances in aerospace sensors are required to increase **combat effectiveness** by providing ‘anytime, anywhere’ surveillance, reconnaissance, precision targeting, and electronic **warfare** capabilities.”¹⁶²
- *Dual Use Science and Technology (0602805F)* – “In FY 2006, **this PE will be cancelled as a result of higher Air Force priorities**. . . . This program seeks to leverage industry investments with interests in advanced technologies of mutual advantage to the Air Force and the commercial sector. A key objective of this program is for the Air Force to stimulate the development of dual use technologies so as to provide greater access to commercially developed technologies and to promote more affordable defense systems that maintain **battlespace superiority**.”¹⁶³
- *Advanced Materials for Weapons Systems (0603112F)* – “This program develops and demonstrates materials technology for transition into **Air Force systems**. . . . This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates technologies for existing system upgrades and/or new system developments that have **military utility** and address **warfighter needs**.”¹⁶⁴
- *Flight Vehicle Technology (0603205F)* – “{T}his project developed technologies for fixed and bare base operations, including airfield pavements, energy systems, air base survivability, air base recovery, protective systems, airfield fire protection, and crash rescue. This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates technologies for existing system upgrades and/or new system developments that have **military**

¹⁶¹ Exhibit R-2, RDT&E Budget Line Item Justification, 0602203F Aerospace Propulsion, p. 1 (Feb. 2006) (Exhibit EC-422) (emphasis added).

¹⁶² Exhibit R-2, RDT&E Budget Line Item Justification, 0602204F Aerospace Sensors, p. 1 (Feb. 2006) (Exhibit EC-423) (emphasis added).

¹⁶³ Exhibit R-2, RDT&E Budget Line Item Justification, 0602805F Dual Use Science & Technology, p. 1 (Feb. 2006) (Exhibit EC-424) (emphasis added).

¹⁶⁴ Exhibit R-2, RDT&E Budget Line Item Justification, Advanced Materials for Weapon Systems 0603112F, pp. 1 (Feb. 2006) (Exhibit EC-425) (emphasis added).

utility and address warfighter needs.¹⁶⁵

- *Aerospace Technology Dev/Demo (0603211F)* – “Advanced aerospace structures are demonstrated to sustain and enhance the capability of current and future aerospace vehicles, such as a next generation **bomber**.”¹⁶⁶
- *Aerospace Propulsion and Power Technology (0603216F)* – “The program has six projects, each focusing on technologies with a high potential to enhance the performance of existing and future **Air Force weapons systems**.”¹⁶⁷
- *Industrial Preparedness (0708011F)* – “The DoD Manufacturing Technology (ManTech) program is mandated by Section 2521, Title 10, United States Code, to create an affordable, world-class industrial base manufacturing capability responsive to the **warfighter’s needs**. . . . When mature processes are not available, laboratory-developed initial process capabilities are matured and inserted into weapon system programs.”¹⁶⁸

CRA also ignored text indicating that individual projects focused on military objectives.¹⁶⁹

130. These are especially significant lapses because CRA based its conclusion that projects

¹⁶⁵ Exhibit R-2, RDT&E Budget Line Item Justification, 0603205F Flight Vehicle Technology, p. 1 (Feb. 2005) (Exhibit EC-426) (emphasis added).

¹⁶⁶ Exhibit R-2, RDT&E Budget Line Item Justification, 0603211F Aerospace Technology Dev/Demo, p. 1 (Feb. 2006) (Exhibit EC-427) (emphasis added).

¹⁶⁷ Exhibit R-2, RDT&E Budget Line Item Justification, 06032126F Aerospace Propulsion and Power Technology, p. 1 (Feb. 2006) (Exhibit EC-428) (emphasis added).

¹⁶⁸ Exhibit R-2, RDT&E Budget Line Item Justification, 0708011F Industrial Preparedness, p. 1 (Feb. 2006) (Exhibit EC-31) (emphasis added).

¹⁶⁹ PE 0601102F, Project 2302 (Feb. 1997) (“This project seeks to develop a fundamental understanding of the behavior of aerospace materials, structures, and supporting facilities, leading to cost-effective development and safe and reliable operation of **superior weapons and defensive systems**.”); PE 0601102F, Project 2302 (Feb. 2006) (“Analyze structural fatigue and mechanics, adaptive structures, and material properties to improve the design, robustness, and performance of air and space systems to **include multi-mission unmanned aerial vehicles (UAVs)**.”); PE0601102F, Project 2313 (Feb. 2006) (“The goal is to develop useful quantitative models of **the way Air Force warfighters perceive, appraise, and manipulate their environment**”); PE 0602102F, Project 2304 (Feb. 2006) (“Advanced research on cooperative control in dynamic, uncertain **adversarial environments with applications to swarms of smart munitions, unmanned aerial vehicles, (UAVs), and constellations of small satellites**.”); PE 0601102F, Project 2304 (Feb. 2006) (“Elucidated complex problems in system diagnostics/prognostics, air mobility contingencies, and strategic/tactical planning for **battlespace information management**.”); PE0601102F, Project 2302 (Feb. 1996) (“Performed research on **explosive materials**. . . .”); PE 0601102F, Project 2302 (Feb. 1998) (“Investigated the fundamental behavior of vibro/acoustic systems and aeroelastic structures to apply toward reduction of noise and structural fatigue in **aircraft with internal bomb bays** (B-1, F-22, Joint Strike Fighter).”) (emphases added *passim*). These examples all come from budget documents related to PE 0601102F, which the EC submitted as Exhibit EC-419.

had potential civil aircraft applicability based on the presence in the description of broad generic “keywords” (such as “composite materials,” “polymer,” or “vehicle integrity”) that could also be used to describe any number of technologies, most of them with no relation whatsoever to large civil aircraft. In doing so, CRA ignored that weapons systems and warfighters have numerous performance requirements that are simply irrelevant to large civil aircraft. They must survive in “adversarial environments,” namely those that subject them to weapons fire. They must have electronic countermeasures or other means of evading detection and attack. They may need the capability to engage in extreme maneuvers at supersonic speeds. They may need to airdrop bombs, or cargo, or paratroopers. *All of these capabilities are useless for the production and development of large civil aircraft.* They would simply add cost with no improvement in relevant performance criteria. Thus, whether it is “composite materials,” “polymers,” “vehicle integrity,” or some other common aerospace term, results directed to a military objective are highly unlikely to advance performance criteria critical for large civil aircraft. In short, the CRA analysis is both simplistic and wrong – rather like saying that the DoD research referenced by the EC had a dual use on airliner tray tables because they are made of polymers.

- b. *The evidence on the “general” aeronautics RDT&E projects on which the EC focuses – the DUS&T, Industrial Preparedness research, and composites research – merely reinforces the conclusion that DoD research does not convey an advantage to the production and development of large civil aircraft.*

131. These errors are not merely the output of a few careless consultants. They also appear in the extensive discussion the EC devotes to attacking the Dual Use Science and Technology (“DUS&T”) Program¹⁷⁰ and the Manufacturing Technology (“ManTech”) Program as examples of how DoD RDT&E benefits the U.S. large civil aircraft industry. However, an objective consideration of the evidence leads to the opposite conclusion.

132. The very existence of the DUS&T Program underscores that the propagation of what the EC labels “dual-use” technology is not, and was never, part of DoD’s mission. If it were, a special program would be superfluous. The size of the program further demonstrates exactly how *unimportant* explicitly dual use research was to DoD. The DUS&T Program represented a tiny portion of DoD’s total RDT&E spending – a mere 0.03 percent,¹⁷¹ and the program was cancelled in 2006 “as a result of higher Air Force priorities.”¹⁷² But perhaps the most important point is that the DUS&T Program was not designed to benefit industry. Rather, DoD sought to reduce its own cost for new technology by spreading costs over military and civil users and to get *private industry to pay for the civil use of the technology*. As the program description explains:

¹⁷⁰ For purposes of this discussion, we use “DUS&T Program” to refer to the DUS&T Program itself and its predecessors, the Technology Reinvestment Project (“TRP”) and the Dual Use Applications Program (“DUAP”).

¹⁷¹ DUS&T Funding (Exhibit US-39).

¹⁷² PE 0602805F (Feb. 2006) (Exhibit EC-424).

This program seeks to leverage industry investments with interests in advanced technologies of mutual advantage to the Air Force and the commercial sector. A key objective of this program is for the Air Force to stimulate the development of dual use technologies so as to provide greater access to commercially developed technologies and to promote more affordable defense systems that maintain battlespace superiority. A critical component of this program is the cost-sharing requirement from industry and specific Air Force Programs.¹⁷³

Thus, 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 for the development of the technology.

133. The EC’s conclusion that “DOD’s ManTech Program is a component of the RDT&E Program through which the US LCA industry derives benefit” is also unfounded.¹⁷⁴ The EC concedes that the stated purpose of the ManTech Program is “to focus on military needs.”¹⁷⁵ However, it then cites evidence that ManTech seeks to “transition { } technology to proposed end users” as evidence that the program seeks to benefit large civil aircraft.¹⁷⁶ In light of the stated purpose of the program, the only conclusion is in fact that DoD seeks to strengthen *defense* contractors in their *defense* businesses.

134. The EC seeks to avoid this conclusion by selective quotation. For example, the EC tries to create the impression of a broad mission to benefit industry when it quotes Deputy Under Secretary of Defense Sue Payton as saying:

The ManTech Program focuses on transition and scale-up of military-driven technologies to the industrial base, improving the competitiveness of defense contractors, and strengthening domestic manufacturing capabilities¹⁷⁷

However, the ellipsis excises the words “in industries such as precision optics, composites fabrication and microwave vacuum devices,” making clear that ManTech does not embody a broad commitment to the civil aircraft sector. In fact, Boeing makes none of the listed products.

¹⁷³ PE 0602805F (Feb. 2006) (Exhibit EC-424).

¹⁷⁴ ECFWS, para. 742.

¹⁷⁵ ECFWS, para. 742.

¹⁷⁶ ECFWS, para. 743. The EC quotes similar statements in paragraphs 744 745.

¹⁷⁷ ECFWS, para. 745, *quoting* Department of Defense Manufacturing Technology Program, Affordable and Responsive Manufacturing Technologies for the U.S. Military, introduction (Exhibit EC-500).

Like Airbus it buys composites from suppliers.¹⁷⁸ The EC also eliminates the preceding paragraph of Payton’s statement, which says:

The DoD Manufacturing Technology Program (ManTech) plays a key role in getting the technology edge into the warfighters’ hands. Maintaining a vigorous manufacturing capability and a robust defense industry is a keystone of our ability to deploy more effective and lethal weapons.¹⁷⁹

Thus, it is clear that aiding the production of civil merchandise is simply not a ManTech objective.

135. Boeing’s RDT&E contracts funded through DoD’s Industrial Preparedness program element (which includes the ManTech Program) further demonstrate the military purpose of the program. Contract F33615-91-C-5720 states: “This effort shall demonstrate that . . . it is possible to achieve a 50% reduction in the acquisition cost of advanced composite wing structures for fighter aircraft.”¹⁸⁰ Agreements F33615-98-3-5103 and F33615-98-3-5104 both state: “The 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 UAV’s.”¹⁸¹ The EC quotes this statement as proof that the effort was directed to civil aircraft.¹⁸² However, both contracts make clear that opportunities for “long-term technology development” will be determined based on “which technologies are sufficiently matured to move into the short term program and which need further maturation. This new demonstration article will be designed to meet the needs of future military weapons systems.”¹⁸³ The documents do not mention applicability to civil aircraft.

136. The EC notes that some ManTech technologies have found use in the civil sector, including the civil aircraft sector. However, it disregards the evidence that any such result is entirely incidental. The clear ManTech focus is on the use of technology for military objectives;

¹⁷⁸ To the extent composites producers developed a composite material usable by Boeing on large civil aircraft, they would be free to sell it to Airbus, too.

¹⁷⁹ Department of Defense, Report to Congress on the Activities of the DoD Office of Technology Transition, p. 22 (Jan. 2000) (Exhibit EC-501).

¹⁸⁰ Contract F33615-91-C-5720, p. 3 (Aug. 15, 1991) (Exhibit EC-508).

¹⁸¹ Agreement F33615-98-3-5103, p. 28 (Exhibit EC-517); Agreement F33615-98-3-5104, p. 29 (Exhibit EC-519).

¹⁸² ECFWS, para. 758.

¹⁸³ Agreement F33615-98-3-5103, p. 35 (emphasis added) (Exhibit EC-517); Agreement F33615-98-3-5104, p. 36 (Exhibit EC-519) (emphasis added).

it is military applicability that makes ManTech projects a “success.” For example, the Air Force’s ManTech “successes” are composites work for the F/A-18 and F-22, joint direct attack munitions, surface-to-air missiles, F-119 rotor blades, windfield measurement devices for the AC-130, F-117, and Joint Strike Fighter, and radomes for the F-22.¹⁸⁴ All of these are military aircraft. The success summaries do not refer to civil aircraft or applications.

137. Hence, the focus of the ManTech Program remained (and remains) persistently on advancing military objectives. Any synergies that do exist flow more to the benefit of military applications than in the other direction. For example, the Composites Affordability Initiative Cost Analysis Tool, which the EC cites as a dual use technology, was based on “the commercially available direct cost model developed by Galorath Inc.”¹⁸⁵ In other words, DoD took a commercial product and converted it to a military use. Boeing’s Composites Affordability Initiative contracts also emphasized that “{t}he participating organizations will bring to the program data which may not have been previously available to industry or government.”¹⁸⁶ In another of many examples of civil-to-military knowledge flow, one ManTech project took a filmless radiography technology used in the medical profession and adapted it for use in detecting cracks in aircraft.¹⁸⁷

138. And, finally, in each of the ManTech projects, DoD paid only for the cost of “militarizing” the civil technology, and not for commercial development. Therefore, the experience of the ManTech and DUS&T programs demonstrates that even research conducted for a stated “dual use” objective is designed to turn a civil contribution to a military purpose.

c. The DoD’s RDT&E activity related to military aircraft did not result in research with direct applicability to large civil aircraft.

139. The EC also alleges that DoD RDT&E contracts related to four weapons systems involved dual use research “directly applicable to commercial aircraft”: the F/A-18, the V-22/CV-22, the Joint Strike Fighter (“JSF”), and the C-17 cargo plane.¹⁸⁸ In fact, the EC’s allegations concerning these aircraft are also unfounded. A consideration of the technical objectives needed to develop these products confirms the point made above, that DoD-contracted research was primarily directed to achieving capabilities that were not relevant to large civil aircraft – vertical flight, supersonic speeds, landing on extremely short runways (such as on

¹⁸⁴ Department of Defense, Manufacturing Technology Program, Success Stories, pp. 11-13 (Exhibit EC-502).

¹⁸⁵ Department of Defense, Manufacturing Technology Program, Success Stories, p. 19 (Exhibit EC-502).

¹⁸⁶ Agreement F33615-98-3-5103, p. 27 (Exhibit EC-517); Agreement F33615-98-3-5104, p. 28 (Exhibit EC-519).

¹⁸⁷ Department of Defense, Report to Congress on the Activities of the DoD Office of Technology Transition, p. 22 (Jan. 2000) (Exhibit EC-501).

¹⁸⁸ ECFWS, para. 676.

aircraft carriers or austere airfields), and aerial dropping of paratroopers or supplies. (And in any event, as discussed in the following section, the export control laws generally would make use on large civil aircraft a practical responsibility.)

140. The F/A 18 fighter provides another example of performance criteria unique to the military. That aircraft is designed to fly at speeds at least twice that of a large civil aircraft with maneuver capabilities in excess of three times the design criteria for large civil aircraft. These technologies have no usefulness in civil aircraft.

141. The V-22 Osprey has a most unique ability to fly vertically, in a helicopter mode, then transition by tilting the rotors forward for forward flight. Weight is critical for vertical flight and as such the V-22 explored composite use on fuselage panels. However, this technology was eventually discarded and, in any event, it was not capable of the manufacturing efficiencies required for today's large civil aircraft components.

142. The Joint Strike Fighter represents a multi-mission, multiple service application of the design requirements of both the F/A 18 and V-22 – supersonic speed and vertical flight. Boeing did not actually get the contract to produce this aircraft, but participated in a competitive development process against another contractor. Both industry teams built two prototypes, had a fly-off, and the joint services selected a winner for potential production. The means of product development was vastly different from designing and building a large civil aircraft. Typically, prototypes or conceptual aircraft are developed for military applications at great costs that push mission envelopes, material and vehicle capabilities. In contrast, large civil aircraft designs are evolutionary, economically market driven, and rarely have a prototype demonstration.

143. The C-17 presents another good example. Its mission of delivering cargo sounds similar to civil usages, and on that basis, the EC's consultants assumed that 80 percent of the R&D cost of the airframe had a dual use.¹⁸⁹ However, there are numerous and substantial differences that make the C-17 and the technology developed for it untenable for civil applications.

- Where large civil aircraft are optimized to fly long ranges with great efficiency, the C-17 is optimized to fly long ranges with high payload from short, undeveloped air fields. These undeveloped air fields generally are hostile, requiring steep climbs and armor protection, a great difference from large civil aircraft with 14,000 ft. paved runways typical at most airports and optimum climb profiles.
- The C-17 is designed for durability under very harsh loads. It also has the ability to air drop its payload from in-flight opening doors. These design requirements result in a much higher structural weight per payload carried than a typical large civil aircraft.

¹⁸⁹ CRA Report, p. 24 (Exhibit EC-7).

- Another key capability for the C-17 was to airdrop paratroopers and equipment. With standard configurations, personnel exiting the C-17 during flight could hit each other or tangle, with potentially deadly consequences.¹⁹⁰ The solution to such a problem would have no applicability to large civil aircraft.

144. Given the enormous volume of documents associated with each program, we have contracts from one of the military programs as an example. It is noteworthy that the documents do not support the EC's case, given that this is the program that EC's consultants asserted to have provided the highest benefit to Boeing large civil aircraft.

145. In summary, there are a number of reasons why military contracts and developmental work does not benefit commercial products. Military mission requirements result in unique technologies that provide superiority in combat situations, and are accordingly are controlled under ITAR. Large civil aircraft developers have emphasized optimal evolutionary progress versus revolutionary, prototype development. Military applications focus on survivability, superiority, operation in harsh environments, stealth, and extreme operations for short periods of time. In contrast, large civil aircraft focus on safety, operational efficiency, low manufacturing costs over long production runs, high aircraft utilization for a long profitable service life, and operation by many customers worldwide without export control restrictions. Therefore, a keyword search of contract descriptions – the basis for the EC's claims – may imply that a technology has civil applicability. But this is not evidence. In any event, an examination of the evidence, namely the contracts submitted by the EC, demonstrates that these the relevant research is for a military purpose.

- d. The EC's own evidence shows that its methodology for estimating the value of Boeing's RDT&E contracts is inaccurate, and greatly overstates the amount of DoD funds that Boeing received.*

146. The EC's estimate that DoD conveyed \$2.4 billion to Boeing from 1991 to 2006 in RDT&E contracts for technologies with theoretical civil applicability is entirely unreliable. Therefore, the Panel should reject that analysis.

147. The CRA Report, a document prepared by the EC's consultants, attempts to estimate the value of DoD RDT&E contracts with Boeing. It starts with the total amount in the program elements ("PEs") of DoD's RDT&E budget that the consultants consider may harbor "dual use" research. It then attempts to identify which "major thrusts" of each PE would involve research with a "dual use" in producing civil aircraft¹⁹¹ and adds together the sums budgeted for those

¹⁹⁰ Fact Sheet: C-17 Globemaster III (Exhibit US-40); Statement of Paul G. Kaminski, Undersecretary of Defense for Acquisition and Technology, Subcommittee on Acquisition and Technology, Senate Armed Services Committee, p. 2 (Mar. 20, 1996) (Exhibit US-38).

¹⁹¹ CRA Report, Appendix A, pp. 3-36 (Exhibit EC-7).

“thrusts.”¹⁹² Exhibit EC-7 then apportions to Boeing a share of that funding proportionate to the EC’s estimate of Boeing’s share of total U.S. sales of military aircraft, missiles, and space vehicles.¹⁹³ This methodology is both internally inconsistent and biased.

148. To begin with, the very evidence on which the EC relies proves that its methodology is thoroughly wrong. The purpose of the EC exercise is to “estimate how much of this annual and cumulative non-engine dual-use aircraft-related RDT&E funding potentially was awarded to Boeing.”¹⁹⁴ For two of the PEs included in the CRA calculation – Aging Aircraft (PE 0605011F) and ManTech (PE 0708011F) – DoD reported the actual value of its contracts with Boeing for all research. Therefore, it is possible to compare CRA’s estimate of the value of “dual-use aircraft-related RDT&E” with what DoD actually paid Boeing for *all* research under those particular program elements. Since both the EC and CRA concede that *some* of DoD’s aircraft research projects have no civil use, the CRA estimate of the value of Boeing’s contracts for research into dual-use technologies should be less than the actual amount DoD paid Boeing for all RDT&E under the program element (or at most equal). In fact, on average, CRA’s estimates were between 484 and 736 percent *higher* than the amount that DoD paid Boeing for *all* research in the program element.¹⁹⁵ Thus, CRA’s estimating method clearly inflates RDT&E payments far beyond their actual amount, and should be given no credence by the Panel.¹⁹⁶

149. CRA also grounds its analysis on several demonstrably erroneous assumptions. First, in estimating the amount of RDT&E funding to Boeing, CRA assumed that every dollar of DoD’s budget was used to fund contracts with producers of finished military aircraft, missiles, and spacecraft. This is obviously untrue. DoD must also devote funds to the maintenance of its own large internal RDT&E staff and to the administration of its programs.¹⁹⁷ Thus, a large portion of the money that CRA apportioned to Boeing was actually used to pay the salaries of DoD employees and overhead, and never went to Boeing.

150. Second, CRA incorrectly assumed that Boeing’s share of DoD RDT&E contracts was identical to Boeing’s share of the U.S. market for finished military aircraft, missiles, and spacecraft. This is also incorrect. DoD does not contract research only with producers of

¹⁹² CRA Report, Appendix B (Exhibit EC-7).

¹⁹³ CRA Report, Appendices C and D (Exhibit EC-7).

¹⁹⁴ CRA Report, p. 9 (Exhibit EC-7).

¹⁹⁵ See EC Overestimates Aging Aircraft and Mantech (Exhibit US-65), which contains these calculations.

¹⁹⁶ The EC’s consultants were aware that actual expenditure figures were available. However, CRA instead “elected to rely upon a consistent methodology” (*i.e.*, the estimates) because its consultants asserted – without any explanation – that the actual figures were “inconsistent and unreliable for drawing general conclusion.” CRA Report, p. 3, note 3. Any reputable analyst would recognize that a 480 percent “inconsistency” between estimates and actual data rendered the estimate thoroughly unreliable, and that continued reliance on the estimating methodology in the name of “consistency” would achieve only a consistent (and huge) error.

¹⁹⁷ For example, DoD estimates that between 40 and 60 percent of all funding in the 0602xxxF series of PEs is used to pay civilian employees.

military equipment – it also works extensively with universities and research institutions.¹⁹⁸ DoD also contracts research with makers of components, who would not be completely captured in that figure. Thus, the ratio used by CRA to attribute RDT&E funding to Boeing is thoroughly wrong.

151. Third, CRA erroneously assumes that the face value of any project equals money spent by Boeing on its own research. But the value of Boeing's contracts with DoD overstates the value of research performed by Boeing employees under the contract. CRA ignored that on major systems like the C-17, the F/A-18, or the V-22/CV-22, Boeing subcontracts a large portion of its work to other companies. When subcontractors perform work related to a Boeing contract, the company simply takes money it receives from DoD and passes it along to the subcontractor. Boeing is not able to use any of that money for its own research. The subcontractor is free to take anything it learns on the Boeing project to its next project, which could be with a Boeing competitor like BAE Systems (a company headquartered in the UK) or EADS (Airbus's 100 percent owner). On these contracts, subcontractors played a major role. For the two programs (F/A-18 E/F and V-22/CV-22) on which precise data were available, this resulted in an overstatement of Boeing's portion of the work by an average of 51 percent.

152. Finally, CRA assumes that research it identifies as potentially dual use research is related only to the "non-engine aerospace" industry.¹⁹⁹ However, even a casual review of the topics highlighted by CRA indicates that there is no basis for this assumption. For example, projects that CRA lists as dual-use to large civil aircraft included topics such as:

- machine speech recognition;²⁰⁰
- high-fidelity image generation;²⁰¹

¹⁹⁸ For example, in 2005, the top ten RDT&E contractors included a university (the Massachusetts Institute of Technology) and an R&D enterprise (Science Applications International Corp.). The top 25 included another university (Johns Hopkins), two independent research centers (MITRE and the Institute for Defense Analyses), a private testing enterprise (the Aerospace Testing Alliance), and a consultancy (Booz Allen Hamilton). None of them produce hardware for the military. Top 100 DoD Contractors Receiving Contract Awards for RDT&E: Fiscal Year 2005 (Exhibit EC-529). The Air Force estimates that for one of the program elements cited by the EC, Defense Research Science (PE 0601102F), out of 985 contracts and grants initiated in FY 2006 worth \$157 million, only \$14.5 million (less than 10 percent) went to companies. The remainder went to universities, research institutions, and government organizations. This is consistent with historical experience – as far back as 1996, universities accounted for 60 percent of government-funded basic research, government in-house scientists 25 percent, and industry and nonprofit institutions 15 percent. Statement of Paul G. Kaminski, Undersecretary of Defense for Acquisition and Technology, Subcommittee on Acquisition and Technology, Senate Armed Services Committee, p. 2 (Mar. 20, 1996) (Exhibit US-38).

¹⁹⁹ Exhibit EC-7, Appendix E.

²⁰⁰ PE 0601102F, Project 2313 (Feb. 1995) (Exhibit EC-419).

²⁰¹ PE 0601102F, Project 2313 (Feb. 1995) (Exhibit EC-419).

- modeling of the fluid flow and transport through soil of chemicals with an eye to improvement of hazardous waste sites;²⁰²
- electronic/optic holographic concepts to increase compact disc storage capability;²⁰³
- “team member fatigue and stress to determine optimum performance environments for command, control, and communications;”²⁰⁴
- “image enhancement and data storage manipulation to facilitate the transmission of information over limited bandwidths;”²⁰⁵
- optimization of polymer properties;²⁰⁶
- “Created automated tools for browsing open source information, including the World Wide Web, for intelligence analysis;”²⁰⁷ and
- “Examined methodologies to fabricate high current, high-temperature superconducting cables for enhanced power generation and storage devices.”²⁰⁸

To be clear, the United States (and DoD for purposes of spending government funds) interpret these categories as being research to attain specific military capabilities that are not available in commercial products. If CRA is going to assume (erroneously) that DoD research is not limited to military objectives, there is no reason to assume that it applies only to aerospace. In fact, that assumption is just another example of the bias in the CRA methodology toward inflating the attribution of funds to the aerospace industry in general.

e. History shows that DoD RDT&E activities do not create an advantage in the production or development of large civil aircraft.

153. The development of the aerospace industry further confirms that DoD’s purchases of research services do not generate success in the large civil aircraft market. In the beginning of the 1990s, four companies produced aircraft in the United States: Boeing, McDonnell Douglas,

²⁰² PE0601102F, Project 2302 (Feb. 1996) (Exhibit EC-419).

²⁰³ PE 0602102F, Project 2305 (March 1996) (Exhibit EC-420).

²⁰⁴ PE 0602102F, Project 2313 (March 1996) (Exhibit EC-420).

²⁰⁵ PE 0602102F, Project 2304 (Feb. 1997) (Exhibit EC-420).

²⁰⁶ PE 0601102F, Project 2303 (March 1996) (Exhibit EC-419).

²⁰⁷ PE 0602102F, Project 2304 (Feb. 1998) (Exhibit EC-420).

²⁰⁸ PE 0602102F, Project 2305 (Feb. 2006) (Exhibit EC-420).

Lockheed, and the Grumman Corp. All of them produced military aircraft for DoD and had RDT&E contracts with DoD. If the EC were correct in its theory that DoD RDT&E has substantial dual use and, therefore, benefits civil aircraft production, one would expect the companies that had the highest value RDT&E contracts to have had large and growing civil aircraft businesses, and companies with low values of RDT&E contracts to have problems with their civil aircraft.

154. In fact, the opposite was the case. From 1991 to 1996, Lockheed (later Lockheed Martin) was by far the largest RDT&E contractor – with \$23 billion – among the four aircraft producers. If the EC were correct, it would have a large and thriving large civil aircraft business, built on DoD funding. In fact, Lockheed exited the large civil aircraft business in the 1970s, and did not produce civil aircraft or move into civil aircraft production during the period covered by the EC submission. The second biggest RDT&E contractor was McDonnell Douglas, which had contracts worth \$8.7 billion. During this period, it exited the civil aviation business after a long history of success. Next came the Grumman Corp. (later Northrup Grumman), with \$5 billion, which did not produce large civil aircraft at all. Boeing’s \$3.7 billion in RDT&E contracts made it the smallest RDT&E contractor among the four U.S. aircraft manufacturers, with RDT&E contracts worth 60 percent *less* than McDonnell Douglas. Yet between 1991 and 1996, Boeing successfully developed the 777 and soon afterward took over McDonnell Douglas, which had a much larger portfolio of RDT&E contracts. In short, in a real world experiment, the level of participation in the DoD RDT&E program bore no relationship to success in the civil aircraft business.

f. Speculation as to the existence of theoretical “dual uses” for the technology Boeing develops for DoD is irrelevant to the Panel’s analysis of whether DoD’s contracts with Boeing confer a benefit.

155. The EC’s extended discussion of supposed “dual uses” for technology developed by DoD misses a further vital point, namely that potential civil uses for military technologies are irrelevant to the analysis required under the SCM Agreement. As noted above, the Appellate Body has found that a benefit arises “if the recipient has received a ‘financial contribution’ on terms more favourable than those available to the recipient in the market.”²⁰⁹ Thus, even if the Panel were to find that transactions like the contracts between Boeing and DoD are in fact financial contributions, the next step would be to inquire whether the terms were more favorable than available on the market. Article 14(d) of the SCM Agreement establishes that the adequacy of remuneration determines the value of any benefit conferred by the government’s purchase of a good or provision of goods and services. If the Panel were to decide that such purchases of services constitute a financial contribution, that standard would provide context for determining whether the DoD contracts conferred a benefit.

156. There is no question that *all* of DoD’s RDT&E has a military purpose. Even the EC

²⁰⁹ *Canada – Aircraft (AB)*, para. 158.

eventually concedes this point.²¹⁰ Thus, when DoD contracts with Boeing to conduct research requested by DoD, it clearly gets something of value in exchange for its money, namely, the research efforts of Boeing’s engineers and any knowledge useful to the conduct of military operations that those engineers produce. Depending on how the research works out, DoD might also obtain other items of value, such as patent and data rights. Thus, determining benefit under the SCM Agreement requires an inquiry into whether DoD paid more than adequate remuneration (that is, paid too much) for what it purchased from Boeing.

157. Both Boeing and DoD each surrender something of value under a contract – Boeing the time of its scientists and the results of their research efforts, data, and intellectual property rights; DoD its funds, or in some instances, other items of value. The adequate remuneration standard requires a comparison of the two sides’ contributions to evaluate whether DoD overpaid. The United States performs that analysis below in Section B.3, which demonstrates clearly that remuneration is no more than adequate. The alleged existence of “dual use” for technology does not affect either side of the equation. It does not increase the dollars that DoD paid to Boeing, and it does not affect the value of the research or of the company scientists devoted to military projects or the knowledge and other valuable results that Boeing conveyed to DoD. Thus, allegations of “dual use” do not convert a value-for-value transaction into a subsidy where none exists.

2. *DoD’s actual purchases from Boeing of RDT&E services that meet the criteria identified by the EC were much smaller than the EC estimates and did not result in research directly applicable to large civil aircraft.*

158. The DoD RDT&E contracts related to Boeing’s aircraft research during the 1991 through 2006 period show that the value of contracts that meet the criteria set by the EC was far smaller than the EC alleges. A more detailed analysis of these contracts demonstrates that the RDT&E activities carried out pursuant to those contracts were not, as the EC claims, “directly applicable” to large civil aircraft.²¹¹ This information provides yet another, independent reason to reject the EC’s claims.

159. For purposes of this exercise, the United States attempted to identify the contracts that the EC identified as its primary area of concern, an effort complicated by the EC’s lack of clarity as to what exactly makes research “dual use” and, therefore, subject to its claim. Based on the analysis in the first written submission itself and in the CRA Report, the EC claim appears to be

²¹⁰ The EC’s description of the challenged measure as “dual use” research shows the EC’s recognition that, at a minimum, all of DoD’s RDT&E projects have a military application in addition to the alleged civil application perceived by the EC. (As shown below, the EC greatly exaggerates the number and value of DoD RDT&E contracts for research into technology with even a theoretical civil applicability.) The EC explicitly admits that “a significant portion of DOD’s focuses on military R&D.” ECFWS, para. 664. However, as the EC does not identify a single research project without military application, “significant portion” as used in that sentence is clearly a euphemism for “all.”

²¹¹ ECFWS, para. 676.

directed at research that meets five criteria: (1) funding by one of the budgetary program elements listed in paragraphs 676 and 677 of the EC first written submission;²¹² (2) absence of a purely military objective;²¹³ (3) no relation to space;²¹⁴ (4) no relation to missiles;²¹⁵ and (5) no relation to engines.²¹⁶ The analysis that follows includes a sixth criterion, that there is no relation to rotorcraft, a category that includes helicopters. Rotorcraft fly based on aerodynamic principles completely different from fixed wing aircraft like large civil aircraft, so that research regarding rotorcraft is generally not usable for civil aircraft.²¹⁷

160. With the assistance of the Office of Naval Research (“ONR”) and the Air Force Research Laboratories (“AFRL”), the United States identified contracts that met the criteria that EC appears to have used.²¹⁸ The United States already submitted them in the Annex V process for DS317. It also attempted to identify any additional contracts that were too recent for submission as part of that process, but are now available. In line with the EC focus on the 2001-2006 period for serious prejudice claims, the analysis used December 31, 2006, as the cut-off date.

161. This review process revealed 43 contracts, worth approximately \$529 million.²¹⁹ Copies of these contracts, along with relevant related materials, have been submitted with this submission.²²⁰ Importantly, these are contracts that meet the EC’s criteria for inclusion in its claims. A review of these materials demonstrates that even a theoretical application of military technology is rare.

162. For example:

- Agreement F33615-01-2-3110 aims to develop and test techniques to enable

²¹² ECFWS, paras. 676-677; CRA Report, p. 7 (Exhibit EC-7).

²¹³ CRA Report, p. 8 (Exhibit EC-7).

²¹⁴ CRA Report, p. 8 (Exhibit EC-7).

²¹⁵ CRA Report, pp. 10-11 (Exhibit EC-7).

²¹⁶ CRA Report, p. 6 (Exhibit EC-7).

²¹⁷ The analysis makes two exceptions to this final criterion: the V-22/CV22 (because the EC mentioned it specifically) and the Next Generation Transparency Program, because it involved research specifically on windscreens, which may be used on large civil aircraft.

²¹⁸ DoD does not maintain a systematic database linking contracts to particular PE numbers. Therefore, we identified relevant contracts based on narrative descriptions of the subject matter and manually verified that they were funded from PEs listed by the EC.

²¹⁹ Contract List (Exhibit US-54). The EC has couched its claims in terms of PE numbers, even though the United States has informed it repeatedly that DoD does not maintain a database linking contracts to those numbers. This list is based on a manual checking of hard-copy files to determine relation to the budget items listed by the EC. Moreover, much of the data comes from old records. Therefore this figure is an estimate.

²²⁰ Relevant related materials include modifications to the contracts, statements of work that were incorporated into the contracts by reference, solicitations, and requests for proposal to the extent they were available.

“super short take off and landing” (SSTOL) capability for advanced military transports.²²¹ This capability is beyond that of current large civil aircraft and, indeed, unnecessary for them, as civil airports are designed precisely to have long runways to accommodate the capabilities of large civil aircraft.

- Agreement F33615-97-2-3400 involved the study of injection molding and surface finishing technologies and techniques for high-performance military aircraft transparencies, such as canopies.²²² Large civil aircraft do not use canopies, and are not subject to the stress of the type experienced by high-performance aircraft subject to this research.
- Contract N00019-01-C-0133 involved system transitioning of a concept demonstration program for the Joint Strike Fighter that produced only a prototype to the stage of development a full system.²²³ As such, the program was specific to the particular aircraft, and its technology did not apply to large civil aircraft.
- Contract F33615-96-C-1958 addressed systems engineering issues associated with incorporating commercially developed and military avionics and electronics into legacy (*i.e.*, older) military systems.²²⁴ It is an example of civil-to-military synergy. Since the equipment in question was already adapted for civil use, the technologies developed would have no application in large civil aircraft.
- F33615-92-C-3406 involved testing of a braking system on military fighter aircraft, which undergo stresses far in excess of those on large civil aircraft.²²⁵
- F33615-94-C-2503 dealt with an advanced integrated fuel system, testing a fuel that is not used on large civil aircraft.²²⁶
- Contract F33615-91-C-5716 began as an effort to develop composites for a large transport, which was cancelled, so that the project was redirected to address composite fuselage structures for fighter aircraft.²²⁷ The fighter technologies would not apply to large civil aircraft.

²²¹ Agreement F33615-01-2-3110 (Exhibit US-703).

²²² Agreement F33615-97-2-3400 (Exhibit US-705).

²²³ Contract N00019-01-C-0133 (Exhibit US-617).

²²⁴ Contract F33615-96-C-1958 (Exhibit US-618).

²²⁵ Contract F33615-92-C-3406 (Exhibit US-620).

²²⁶ Contract F33615-94-C-2503 (Exhibit US-621).

²²⁷ Contract F33615-91-C-5716 (Exhibit US-625).

- Contract F33615-97-C-5270 involved non-destructive evaluation techniques to evaluate defects critical to the mission readiness and survivability of low observable (*i.e.*, stealth) aircraft.²²⁸ The key technical issue was verification of the signature reduction attributes of the aircraft and, as such, was not applicable to large civil aircraft. (As we have noted previously, “stealth” is not a desirable attribute in civil aircraft.)

163. It is also significant that for several of the contracts in question, even the statement of work contained information that, under the ITAR, cannot be exported without a license. As noted below in Section C.3, these regulations require authorization, typically in the form of a license for the export of any defense articles, including technical data. This includes any article or technology that has been specifically designed, developed, configured, adapted, or modified for a military application, that do not have predominant civil applications, and do not have performance equivalent (defined by form, fit, and function) to that of an article or service used for civil applications; unless it has significant military or intelligence applicability such that control under the ITAR is necessary.²²⁹

164. The contracts in question are:

- Contract F33615-01-C-5206, which provides for research relating to rotating turbomachinery for cryogenic rocket engines;²³⁰
- Agreement F33615-03-2-5201 which provides for research relating to advanced ceramic composites for turbine engines;²³¹
- Agreement F33615-03-2-5202, which provides for research relating to advanced ceramic thermal protection materials;²³²
- Agreement F33615-03-2-1403, which provides for research on precision image registration.²³³

The subject matter of these contracts is so sensitive that even a general description of the work performed cannot be exported without a license. This is a particularly direct example of why military technologies may not be used on civil aircraft. And, even where the general overview is not subject to control, the actual details of how the technology is developed or how it works are

²²⁸ Contract F33615-97-C-5270 (Exhibit US-631).

²²⁹ 22 C.F.R. §§ 120.1 and 120.3 (Exhibit US-50).

²³⁰ Contract F33615-01-C-5206 (Exhibit US-606).

²³¹ Agreement F33615-03-2-5201 (Exhibit US-609).

²³² Agreement F33615-03-2-5202 (Exhibit US-610).

²³³ Agreement F33615-03-2-1403 (Exhibit US-613).

controlled.

165. In the program elements identified by the EC, for the areas of concern identified by the EC, DoD contracted much less RDT&E with Boeing than the EC would have the Panel believe. Of these RDT&E activities, very little involved technology is even potentially applicable to large civil aircraft.

3. *Because of concerns about potential ITAR violations, Boeing has a policy against using ITAR-controlled articles on all its civil aircraft and, therefore, used only technology with documented civil origins in its development and production of the 787.*

a. Legal Background

166. Boeing, like all U.S. persons, is subject to the International Traffic in Arms Regulations (“ITAR”).²³⁴ The ITAR control the export of “defense articles” (including end items, components, accessories, attachments, parts, associated equipment, hardware, software, systems and technical data) and “defense services.”²³⁵ Defense articles are defined as items designed, developed, configured, adapted, or modified for military applications, which are listed on the United States Munitions List (“Munitions List”).²³⁶

167. The U.S. State Department determines what is a defense article or defense service warranting control on the Munitions List and therefore subject to ITAR jurisdiction.²³⁷ The Munitions List contains general descriptions – it is not a comprehensive list of all defense articles. Where there is doubt as to whether an individual item is ITAR controlled, the Department can, on a case-by-case basis, determine that an item is not ITAR controlled if it finds that the item was not specifically designed, developed, configured, adapted, or modified for a military application and (1) has predominantly civil applications or performance equivalents (in terms of form, fit, and function) used for civil applications, and (2) does not have “significant

²³⁴ The ITAR implement the Arms Export Control Act and are found in successive parts of Title 22 of the Code of Federal Regulations, beginning with Part 120. See Exhibit US-43. For purposes of the ITAR, the term “U.S. persons” includes any lawful permanent resident of the United States or any entity incorporated to do business in the United States.

²³⁵ The ITAR control the export, temporary import, and re-export or retransfer of defense items and services.

²³⁶ 22 C.F.R. § 121 (Exhibit US-44).

²³⁷ 22 U.S.C. § 2778(h) (precluding any judicial review of determinations by the State Department’s Directorate of Defense Trade Controls (“DDTC”) regarding defense articles) (Exhibit US-45). Consent Agreement In the Matter of The Boeing Company, U.S. Department of State, Bureau of Political-Military Affairs, available at http://pmdtc.state.gov/ca_boeingcompany.htm (“Consent Agreement”) (affirming that ITAR “authorizes the Department to designate what is a defense article or a defense service”) (Exhibit US-46).

military or intelligence applicability.”²³⁸

168. The ITAR apply to all items on the Munitions List, regardless of the intended end use (military or commercial) of the item on the U.S. market.²³⁹ The key determining factor is whether the item meets the definition of a defense article. This means that even old, unsophisticated and commonly available items such as shotguns or seemingly benign parts unique to old military aircraft are controlled when they meet the regulatory definition. Furthermore, the regulations contain no *de minimis* exclusions or exceptions to the controls. So, with very few exceptions, any item that is a defense article is controlled even when incorporated into a much larger item. This is true even when the larger product into which it is incorporated is clearly commercial.

169. An item subject to the ITAR cannot be exported without a license or applicable exemption. Exemptions are carefully tailored, and none have proven appropriate for large civil aircraft.²⁴⁰ Additionally, the EC characterization of ITAR as imposing “*simply* a requirement that the US exporter obtain a license” misrepresents the nature of the licensing process, which requires substantial documentation.²⁴¹ Licenses are only granted on a transaction-specific basis, based on a detailed review of the evidence,²⁴² meaning that every export requires a separate license. And most significant in the case of a product such as large civil aircraft, the terms of each ITAR license means that the exported item can only be used within the country designated

²³⁸ DDTC makes jurisdictional determinations in response to Commodity Jurisdiction requests under 22 C.F.R. §120.4 (Exhibit US-47). The procedure is used “if doubt exists” as to whether an article or service is covered by the Munitions List or for “consideration of a redesignation” of items currently covered by the Munitions List. For a redesignation request, the burden of proof is on the requesting party to demonstrate a predominantly civil application, a performance equivalent for civil applications, and no significant military or intelligence application.

²³⁹ 22 C.F.R. § 120.3 (noting that “the intended use of the article or service after its export. . . is not relevant in determining whether the article or service is subject to the controls of this subchapter.”) (Exhibit US-42).

²⁴⁰ 22 C.F.R. § 123.1 (Exhibit US-48). In limited instances, license exemptions may be available for sales made by the U.S. Government under the foreign military sales program, exports by or for a U.S. agency, certain shipments to Canada, and various eligible hardware (if under \$500 value and used to support previously authorized exports). 22 C.F.R. § 126.6(c), 126.4, 126.5 (Exhibit US-49), and 123.16 (Exhibit US-63). None of these exemptions are appropriate for large civil aircraft sales.

²⁴¹ ECFWS, para. 468 (emphasis added). The challenges of the U.S. export licensing regime have been recognized to include lack of predictability, potential steep penalties (including fines and debarment from the ability to do business with the U.S. government), and costly changes to supply chains and product designs. Testimony of Dave McCurdy before the Commission on the Future of the United States Aerospace Industry, February 11, 2002, available at <http://www.eia.org/news/pressreleases//2002-02-11.41.phtml> (Exhibit US-51) (noting that “{p}articularly for the aerospace industry, with its intricate designs, hundreds of suppliers, and extensive after-market servicing, the ITAR licensing process presents a formidable challenge throughout the lifecycle of a system.”)

²⁴² Guidelines for Completion of a Form DSP-5, U.S. Department of State, Directorate of Defense Trade Controls, pp. 1-2 (Exhibit US-52). Among other things, the applicant must submit purchase orders, signed letters of intent, technical data information, letters of explanation, signed end use and end user confirmation statements from each anticipated recipient of the exported articles, as well as specific freight and shipping information for each item exported.

in the license.²⁴³ These restrictions make it effectively impossible to use controlled technologies on large civil aircraft because, by their nature, the aircraft can potentially fly anywhere, including to countries proscribed by U.S. law, regulation, and policy from receiving access to U.S. defense articles and technical data. Finally, it is important to note that licenses are not automatic, and DDTC frequently either denies requests or returns them without action with guidance concerning the various ITAR requirements to be taken into account if the applicant wishes to further pursue the application. Exporters often complain that the uncertainty surrounding the licensing process impedes the ability of U.S. companies to conduct global business.²⁴⁴ Indeed, EADS itself has made strategic decisions to drop U.S. suppliers due to both the uncertainty and the delay involved with obtaining ITAR licenses.²⁴⁵

170. Exporting ITAR-controlled items without a DDTC authorization is not an option. ITAR is a strict liability regime (i.e., violations need not be intentional or knowing), and DDTC is a rigorous monitor and enforcer. DDTC coordinates with the Department of Homeland Security to check imports and exports, and end-user checks are conducted by U.S. embassy personnel under the “Blue Lantern” monitoring program.²⁴⁶ Criminal investigations are conducted by the Federal Bureau of Investigations (FBI) and Immigration and Customs Enforcement (ICE). Penalties for ITAR violations include criminal prosecution and, if convicted, substantial fines and/or imprisonment; administrative or statutory debarment from exporting (including denial of the issuance of licenses); seizure and forfeiture of attempted exports; and interim suspension

²⁴³ 22 C.F.R. § 123.9 (Exhibit US-53) requires that the country for which a license is granted be the country of ultimate end-use of the item. This provision also requires exporters to ascertain specific end-users and end-uses prior to submitting their license requests to the State Department, and requires that they certify, among other things, that “{the} commodities are authorized by the U.S. Government for export only to {country of ultimate destination} for use by {end-user}. They may not be transferred, transshipped on a non-continuous voyage, or otherwise disposed of in any other country, either in their original form or after being incorporated into other end-items, without the prior written approval of the U.S. Department of State.”

²⁴⁴ “Noting Industry Globalization, EADS Chief Says U.S.-EU Defense Ties Need Work”, *World Politics Review*, (May 22, 2007), available at <http://www.worldpoliticsreview.com/article.aspx?id=790> (quoting Thomas Enders, EADS CEO as opining that “{ITAR} regulations are so burdensome for industry on both sides of the Atlantic” that they are “strangling” U.S.-EU defense trade) (Exhibit US-54). *The U.S. Jet Transport Industry: Competition, Regulation, and Global Market Factors Affecting U.S. Producers*, U.S. Department of Commerce, p. 120, available at <http://www.ita.doc.gov/td/aerospace/US%20Jet%20Transport%20Industry%20March%202005.pdf> (noting that incidents such as the QRS-11 “have a very detrimental impact on the desirability of items that are subject to U.S. export controls.”) (Exhibit US-55). *Export Controls: Reengineering Business Processes Can Improve Efficiency of State Department Licensing Reviews* (December 2001; GAO-02-203), available at <http://www.gao.gov/new.items/d02203.pdf> (Exhibit US-56).

²⁴⁵ Space News Business Report, “European Satellite Component Maker Says It is Dropping U.S. Components Because of ITAR” available at http://www.space.com/spaceneews/archive05/Sodern_061305.html (Exhibit US-57).

²⁴⁶ End-Use Monitoring of Defense Articles and Defense Services, DDTC, p. 2, available at http://www.fas.org/asmp/resources/110th/End_Use_FY2006.pdf (Exhibit US-58). Under this program, U.S. embassy personnel check end-users abroad to verify the specific end use and end-users of ITAR-controlled items.

prohibiting violators from exporting until the suspension order is lifted.²⁴⁷ In fact, in 2005 the Department of State fined Boeing \$15 million after an ITAR controlled technology mistakenly was included in its civil aircraft because of lack of clarity regarding the item's export control status, and was subsequently exported without authorization.

b. Boeing procedures for excluding defense articles from large civil aircraft.

171. As indicated above, the restrictions attached to an ITAR license would make an ITAR-controlled large civil aircraft commercially useless. As a result, Boeing large civil aircraft do not include any defense articles, *even if those items have demonstrated commercial applications*. Given DDTC's vigorous enforcement of the ITAR, it is no simple task to ensure that a large civil aircraft is ITAR-free. Specifically, because of the requirement to license ITAR-controlled items even when incorporated into larger systems, it is necessary to ensure that none of the thousands of components (including subcomponents thereof) of the large civil aircraft are defense articles. And, as good faith efforts to comply with the ITAR are not a defense against liability, wherever there is a question as to the military provenance of a component, caution dictates that Boeing or its supplier seek a formal ruling from DDTC. Boeing therefore has a rigorous and comprehensive set of internal procedures that provide for the identification and segregation of all defense articles and services, and exclusion of those items from all commercial aircraft, including the 787.

- (1) Identification of defense articles and services. Boeing has an established process for determining whether commodities, software, technology (including technical data), and services/activities are ITAR controlled. A company internal document, BPI-4605, sets out this process, calling for technical experts, in coordination with regulatory specialists to evaluate each item.²⁴⁸ The process requires a full description of the item, and a full analysis of its development history to determine whether it was originally specifically designed, developed, configured, adapted or modified in any way for a military application or military end-item, and the rationale and documentation to support the determination. All items determined to be ITAR-controlled must be segregated from Boeing's non-ITAR operations.²⁴⁹
- (2) Segregating defense articles from commercial operations. When BCA employees engage in ITAR-related work (for example, when DoD buys a civil airframe as a

²⁴⁷ ITAR violators face potential criminal penalties pursuant to 22 U.S.C. §§ 2778, 2779a and 2780 for each ITAR violation.

²⁴⁸ Boeing, BPI-4605, Jurisdictional and Classification Determination, (Exhibit US-59)(BCI). This process requires a full description of the item, and the rationale and documentation supporting the classification.

²⁴⁹ A Boeing internal document, BPI-3413, requires that BCA employees receive ITAR training and report to management any concern that an ITAR-controlled item is being proposed or installed on a commercial aircraft. Boeing Business Process Instruction BPI-3413(Exhibit US-60) (BCI). When an issue arises, BCA's Export Group investigates, supported as necessary by representatives of the Office of the General Counsel, Supplier Management, and technical experts familiar with the part in question.

platform for development into a military aircraft) ITAR-controlled information is not intermingled with information used on large civil aircraft. Another Boeing internal document, PRO-1040, requires any unit seeking BCA assistance on a project to identify all export control elements of the work, and segregate the ITAR-controlled work from BCA work.²⁵⁰ These segregation rules operate so that when BCA employees do defense-related work for an IDS business unit, the ITAR items are kept separate from the commercial aircraft work in order to prevent any tainting of the commercial aircraft, or the assembly lines, inventory stores and design specifications by which they are produced.²⁵¹

- (3) Exclusion of defense articles from commercial aircraft. Boeing also has an internal rule, PRO-6630, that all defense articles *must* be excluded from all BCA commercial aircraft, unless the necessary U.S. government authorizations are obtained.²⁵² As indicated above, Boeing believes that licensing is not a commercially viable option for large civil aircraft. Furthermore, because Boeing has adopted a risk-averse position, this internal rule operates to keep all items that are *not clearly documented as commercial* off BCA commercial aircraft.²⁵³

172. A recent example demonstrates the commercial impact of Boeing's internal ITAR compliance regime. When Dow Corning raised a concern in 2006 that certain sealants it supplied to Boeing and Boeing suppliers for commercial aircraft uses were possibly subject to ITAR (despite having been used on commercial aircraft for more than 30 years), Boeing halted deliveries of large civil aircraft for six days while the U.S. State Department determined that the cured sealants on its aircraft were not in fact ITAR-controlled. During this period, over \$500 million worth of commercial aircraft sat on the Boeing tarmac, resulting in significant customer

²⁵⁰ Boeing, PRO-1040, Transfer of Export Controlled Work Between Business Units (Exhibit US-61) (BCI), p. 3 (specifically noting that the [***]). The plan must include specific elements to ensure ITAR compliance. These include detailing the facility where ITAR work will be undertaken, developing processes for limiting access by foreign nationals, developing plans for limiting access by other organizations/business units not involved in ITAR work, identifying and controlling all electronic data/computers and developing screening processes for foreign nationals, detailed training plans, and designation of management responsibilities. *Id.* at Annex A. Boeing, PRO-5902, Boeing Commercial Airplanes Interorganizational Support to Other Boeing Segments (Exhibit US-62) (BCI) (stating that the documentation relating to ITAR-controlled work done for other segments must include an ITAR compliance plan/statement).

²⁵¹ These concerns arise when Boeing produces a "green" airframe based on commercial product line for subsequent manufacture into a military derivative aircraft. The requirement to segregate the ITAR elements of the military derivative from the commercial production line often disrupts the efficiencies of the commercial production process. For example, the 737-derived P-8A aircraft (originally labeled the "Multi-Mission Aircraft") required so many additional controls (segregation of electronic design schematics and significant changes to the moving production line) and so much additional manufacture that Boeing decided not to use the commercial 737 production line, and created a dedicated military production line instead.

²⁵² Boeing, PRO-6630, Export Life Cycle for U.S. Export of Hardware, Software, Technology and Services (Exhibit US-63) (BCI).

²⁵³ Bair Affidavit, para. 31 (Exhibit US-7).

anger.

- c. *Boeing has taken additional precautions to exclude defense articles and services from the 787 design.*

173. The 787 development process presented Boeing with the opportunity and challenge of ensuring that defense articles were excluded from the aircraft as it was being designed. In February 2005, the company began a systematic “red team” review of technologies selected for inclusion on the aircraft. Program Process Document 78700-3292, the 787 Jurisdictional Analysis and Documentation Process, (continued by BPI-4605), sets out the procedures for identifying the origin of technical data or items proposed for the 787, and ensuring that any technology potentially controlled by ITAR is not included. The review entailed completion of a structured questionnaire for items and technical data potentially of concern and proposed for the aircraft to determine the origin of each and thus indicate whether the item or data could potentially be a defense article. If a commercial origin was clearly demonstrated, then documentation was developed and filed and the technology remained on the aircraft. If a military origin was found, the technology was excluded. If the origin of the technology was uncertain (i.e., where engineers could not verify commercial heritage), Boeing either removed the item from the program or conducted a detailed review to confirm the proper jurisdiction.²⁵⁴

174. The ITAR review process extends to knowledge-sharing within the company. For example, because some of the R&D that Boeing’s Phantom Works unit does is done for a military purpose (both funded directly by DoD or indirectly through reimbursement of a portion of its Independent Research and Development expenditures), there was strict export control compliance monitoring of a “road show” at which Phantom Works engineers demonstrated its available technologies to BCA.²⁵⁵

175. Finally, as an additional precaution, and in light of the requirement to license defense articles even when incorporated into a larger system as discussed above in subsection 4.a, Boeing has comprehensive systems in place to ensure that 787 suppliers, as well as other suppliers for other commercial aircraft, do not supply parts that are subject to the ITAR.

176. In sum, Boeing has expended extraordinary efforts to exclude any items designed,

²⁵⁴ For example, out of an abundance of caution Boeing submitted Commodity Jurisdiction requests for two technologies (lightning strike appliqué and Eddie Bolt fasteners) that the company felt might *possibly* fall under ITAR jurisdiction. Lightning strike appliqué had been specifically developed for commercial use, but because one of the key developers had significant military expertise, Boeing decided to verify the item’s commercial nature with DDTC. The Eddie Bolt was an old product line which had over the years been used on a variety of civilian and military platforms, and which was supplied by Boeing’s 787 partner ALCOA. Again, erring on the side of caution, ALCOA felt it needed a Commodity Jurisdiction determination to support their “ITAR Free” certification to Boeing for the Eddie Bolt. Both Commodity Jurisdiction requests resulted in a confirmation by DDTC that the items were not ITAR-controlled.

²⁵⁵ PowerPoint presentation, PW-BCA Working Together Conference/Export Compliance and attached email from Halverson to Park, Rush and Krieger (April 7, 2005) (Exhibit US-64)(BCI) (“[***]”).

developed, configured, adapted, or modified for a military application from the design of the 787.

D. DoD RDT&E Personnel and Facilities Do Not Confer Goods or Services Related to Boeing Large Civil Aircraft for Less than Adequate Remuneration.

177. The EC cites absolutely no evidence in support of its assertion that DoD makes a financial contribution in the form of provision of goods and services by “dedicat{ing} federal personnel and research facilities to support the RDT&E Program.”²⁵⁶ Nor does it provide any explanation of how DoD personnel or facilities confer a benefit on Boeing’s production of large civil aircraft. Instead, it simply lumps allegations with regard to personnel and facilities together with its claims regarding RDT&E in general. However, the EC allegations are different with respect to each – it asserts that the RDT&E contracts are grants under Article 1.1(a)(1)(i) and that personnel and facilities are the provision of goods and services under Article 1.1(a)(1)(iii). There are different standards for determining whether a program falls into these separate categories, and different standards for determining whether each category of financial contribution conveys a benefit. The EC cannot avoid its burden of proof by simply bundling claims regarding one financial contribution with another, and putting forward the same analysis as applicable to both.

1. DoD RDT&E personnel do not provide goods or services related to Boeing large civil aircraft, and the EC has failed to cite any evidence to the contrary.

178. As we noted in the preceding paragraph, the EC has cited no evidence to support the assertion that DoD RDT&E personnel provided goods or services to Boeing. That omission by itself should be sufficient to reject the EC’s claim.

179. If the Panel seeks confirmation that there is no financial contribution in the form of provision of services by DoD personnel, it need only look to the contracts between DoD and Boeing. These contracts do refer to DoD employees, but it is clear that those employees:

- *Manage the project.* For example, the DoD Contracting Officer “shall be the only individual authorized to direct and/or redirect the effort or in any way amend any of the terms of this contract;”²⁵⁷
- *Receive and review reports.* For example, the program manager receives copies of any reports issued by the contractor;²⁵⁸ and

²⁵⁶ ECFWS, para. 762.

²⁵⁷ Contract F33615-91-C-5716, p. 19 (Exhibit EC-507); Contract F33615-91-C-5720, p. 36 (Exhibit EC-508).

²⁵⁸ Contract F33615-91-C-5716, pp. 20-21 (Exhibit EC-507); Contract F33615-91-C-5720, p. 37 (Exhibit (continued...))

- *Monitor government patent rights.* For example, the Patents Officer receives any reports of patentable inventions that may have been conceived or reduced to practice under the contract.²⁵⁹

None of these functions provide services to Boeing. All involve services that the personnel supply to advance DoD’s mission – to make sure that the contractor is doing what it has committed to do, and to review the results to make sure the contractor has met the technical requirements of the contract.

180. Further confirmation comes from the mission statement of the Air Force Research Laboratory (“AFRL”), which manages the largest single group of aeronautics RDT&E personnel in DoD:

AFRL’s mission is leading the discovery, development and integration of affordable warfighting technologies for America’s aerospace forces. It is a full-spectrum laboratory, responsible for planning and executing the Air Force’ science and technology program. AFRL leads a worldwide government, industry and academia partnership in the discovery, development and delivery of a wide range of revolutionary technology. The laboratory provides leading-edge warfighting capabilities keeping our air, space and cyberspace forces the world’s best.²⁶⁰

This emphasis on warfighting – a task completely contrary to the function of large *civil* aircraft – makes clear that AFRL personnel do not provide services to the production and development of large civil aircraft.

2. The activities of DoD RDT&E personnel do not confer a benefit to Boeing.

181. The absence of a financial contribution should end the inquiry. However, if the Panel is inclined to address the question of a benefit, it is clear that the activities of DoD RDT&E personnel do not confer a benefit to Boeing, the alleged recipient.

182. For example, DoD personnel such as the contracting officer and administrative contracting officer, from Boeing’s perspective, add another layer of management and review that is not present in research projects that Boeing funds for civil purposes. The extensive reporting requirements and review by DoD employees add further costs to the project that are not present

²⁵⁸(...continued)
EC-508).

²⁵⁹ Contract F33615-91-C-5716, p. 17 (Exhibit EC-507); Contract F33615-91-C-5720, p. 34 (Exhibit EC-508).

²⁶⁰ Fact Sheet, Air Force Research Laboratory, p.1 (Exhibit US-19).

on civil projects. Thus, the answer to the question posed by the Appellate Body – “if the recipient has received a ‘financial contribution’ on terms more favourable than those available to the recipient in the market”²⁶¹ – is “no” with regard to the activities of DoD personnel.

3. DoD does not give Boeing access to DoD research facilities for less than adequate remuneration.

183. As noted at the beginning of this section, the EC has cited no evidence to support the assertion that DoD provides Boeing access to DoD research facilities. That omission by itself should be sufficient to reject the EC’s claim in this regard.

184. If the Panel wishes to inquire further, the contracts submitted by the EC do indicate two situations in which the government provided equipment for use in carrying out a research project:

- Under Agreement F33615-97-2-3400, AFRL agreed to furnish a software system for analytical design on a rent-free, non-interference basis for use during the term of the agreement;²⁶² and
- Under Agreement F33615-98-3-5104, AFRL agreed to furnish access to certain “facilities” from January 8, 1998 through June 30, 1999.²⁶³

However, in each of these examples, the provision of the item in question is clearly to assist the contractor in performing the research required under the contract. In fact, if DoD did not provide the facilities for free, the cost-based nature of the agreements would allow the contractor to seek reimbursement for any costs associated with obtaining non-DoD facilities. DoD would pay the costs for the facilities used for DoD research in any event. DoD likely saves money by opening its own facilities to the contractor.

185. The contracts the United States has submitted in support of its rebuttal of the EC submission provide other examples of RDT&E contracts that allow the contractor access to DoD facilities. In each case, granting that access advanced DoD’s objective of obtaining the research in the most efficient way. The arrangement is also no more favorable than what a commercial actor would do when faced with a similar situation – allow its contractor to use purchaser facilities if doing so would assist in the most efficient completion of the project.

²⁶¹ *Canada – Aircraft (AB)*, para. 158.

²⁶² Agreement F33615-97-2-3400, Article 26 (Exhibit EC-406).

²⁶³ Agreement F33618-98-3-5104, Article 32 (Exhibit EC-519).

IV. NASA R&D

A. Introduction

1. NASA’s aeronautics research is of generally applicability beyond the aerospace sector, and the results are generally available outside the United States.

186. The National Aeronautics and Space Administration (NASA) is most widely known as the agency that put a man on the moon, and today continues to conduct a variety of exploratory activities designed to expand human knowledge. This is, in fact, a vital part of its stated mission, and has been since NASA was established in the 1950s with the declaration that “it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind.” Recognizing further that “the general welfare and security of the United States require that adequate provision be made for aeronautical and space activities,” the U.S. Congress created NASA in 1958 for the purpose of sponsoring leading-edge research in aeronautics and space technology in the ultimate interests of the public.

187. Reading the EC’s submission, it might seem as if NASA was established and funded for the benefit of Boeing. In fact, the EC treats virtually the entire operation and budget of NASA’s Aeronautics Research Mission Directorate as a subsidy to a few companies in the aerospace sector, even though most of NASA’s aeronautics research budget went to support research at the NASA Centers (infrastructure and salaries to NASA employees), contracts with a far broader group of companies and independent research facilities, and grants to universities. Equally important, in most cases, the research work performed under NASA aeronautics programs is made publicly available (consistent with national security and foreign policy), and may be drawn upon not only by Boeing, but also by Airbus and the companies supplying Airbus.

188. The EC has greatly overstated – by nine or ten times – the amount of money NASA paid for aeronautics research contracts with Boeing. Even more importantly, the EC ignored the fact that Boeing received those funds in the form of a purchase by NASA of research services performed for a variety of public purposes. As the purchase of a service is not a financial contribution, these NASA payments for research services are not a financial contribution and, therefore, are not actionable subsidies.

189. The U.S. Congress has instructed NASA to direct its “aeronautical and space activities” toward the following broadly defined ends:²⁶⁴

“(d)(1) The expansion of human knowledge of the Earth and of phenomena in the atmosphere and space;

(2) The improvement of the usefulness, performance, speed, safety,

²⁶⁴ Section 102(e) and (f) of the Space Act (Exhibit EC-286).

and efficiency of aeronautical and space vehicles;

(3) The development and operation of vehicles capable of carrying instruments, equipment, supplies, and living organisms through space;

(4) The establishment of long-range studies of the potential benefits to be gained from, the opportunities for, and the problems involved in the utilization of aeronautical and space activities for peaceful and scientific purposes;

(5) The preservation of the role of the United States as a leader in aeronautical and space science and technology and in the application thereof to the conduct of peaceful activities within and outside the atmosphere;

(6) The making available to agencies directly concerned with national defense of discoveries that have military value or significance, and the furnishing by such agencies, to the civilian agency established to direct and control nonmilitary aeronautical and space activities, of information as to discoveries which have value or significance to that agency;

(7) Cooperation by the United States with other nations and groups of nations in work done pursuant to this Act and in the peaceful application of the results thereof;

(8) The most effective utilization of the scientific and engineering resources of the United States, with close cooperation among all interested agencies of the United States in order to avoid unnecessary duplication of effort, facilities, and equipment; and

(9) The preservation of the United States preeminent position in aeronautics and space through research and technology development related to associated manufacturing processes.”

Congress also instructed NASA to direct its “unique competence in scientific and engineering systems” toward the following additional objectives:²⁶⁵

“(e) ground propulsion systems research and development . . . so as to contribute to the objectives of developing energy- and

²⁶⁵ Space Act, ss 102 (Exhibit EC-286).

petroleum-conserving ground propulsion systems, and of minimizing the environmental degradation caused by such systems;” and

“(f) to assisting in bioengineering research, development, and demonstration programs designed to alleviate and minimize the effects of disability.”

190. The EC focuses only on the aspects of NASA’s missions that address commercial aeronautics. NASA, Congress, industry, and academia have, at various times, attempted to make a case for augmenting the attention to, and budget for, the aeronautics elements of NASA’s mission (and the EC has selectively quoted all such statements to that effect). However, NASA was founded with a much broader scope, and its focus, both as a matter of funding and time, has been on space and exploration.²⁶⁶ In fact, NASA’s aeronautics mission is put into context by the organizational chart of the NASA Advisory Council, which shows that aeronautics is the focus of only one of its six subcommittees (the others being audit and finance, exploration, human capital, science, and space operations).²⁶⁷

191. None of the current NASA Advisory Council Board Members are employees of any airframe manufacturer, including Boeing. The current members include, instead, retired astronauts, retired military officers, academics, business representatives (including ION Corporation, InterSolve Group, and Sodexo), civil society representatives and a Sidley Austin LLP attorney.²⁶⁸ Even in 2005, when Boeing Senior Vice President Jim Jamieson was on the NAC, he was only one of more than 20 board members, the biographies of whom demonstrate the breadth of the interests that the Advisory Council represents.²⁶⁹

²⁶⁶ From 1969 to 2002, aeronautics research each year accounted for between two and seven percent of NASA’s total budget.

²⁶⁷ NASA Advisory Council Organizational Chart (Exhibit US-100). The five science subcommittees – astrophysics, earth science, heliophysics, planetary science and planetary protection – similarly demonstrate that commercial aeronautics is not NASA’s focus.

²⁶⁸ NASA Advisory Council Members List (Exhibit US-101). Sidley Austin LLP attorneys currently serve as the EC’s outside advisors in this dispute.

²⁶⁹ Exhibit EC-312. For example, in 2005, the NAC was chaired by Dr. Charles Kennel, head of Marine Sciences at Scripps Institution of Oceanography, whose own research focused on fundamental plasma physics combined with space and astrophysics. Other members included: James Cameron, the director of movies such as *Rambo*, and *Titanic*, who had also worked with the private sector and NASA to develop a near-term mission architecture to put man on Mars within 15 years; General Ronald Fogelman, a retired Air Force officer and then-president and CEO of Durango Aerospace Incorporated, an international aviation consulting firm and member of the Board of Directors of companies such as Alliant Techsystems and Mesa Air Group; Dr. Donald Fraser, Director of the Photonics Center at Boston University; Douglas King, the President and CEO of the St. Louis Science Center, an educational museum; Mark McDaniel, a lawyer and co-owner of McDaniel Enterprises, a system engineering company involved in the national Missile Defense program; Dr. Ronald Merrell, a Professor of Surgery at Virginia Commonwealth University; Dr. Harold Mortzavian, a professor of electrical engineering and computer science at

(continued...)

192. With respect to the relatively limited amount of aeronautics-focused work that NASA does (in-house and subcontracted), it is first important to note, as the EC does, that NASA's R&D activities are far removed from the actual development and production of particular large civil aircraft models.²⁷⁰ Rather, the research it does is focused on basic tools and technologies that can improve the efficiency and safety of all aircraft²⁷¹ – from single-seat general aviation aircraft²⁷² to very large aircraft configurations, including a revolutionary-configuration Blended Wing Body and traditional-configuration A380.²⁷³ And many of the “aircraft” that NASA has studied under the programs addressed by the EC do not even remotely resemble large civil aircraft, including the designs for a hypersonic Highly Reliable Reusable Launch System, a (hypersonic) scramjet, a supersonic jet, a blended wing body, and rotorcraft.

193. The widespread applicability of NASA's aeronautics goals and research is further demonstrated by the breadth of NASA's aeronautics program goals and the wide variety of participants directly involved in each NASA program challenged by the EC.

²⁶⁹(...continued)

UCLA whose research focuses on control systems, communications and mathematical modeling of dynamical systems; Knox Tull, President and CEO of Jackson and Tull, an engineering firm providing support for fabrication, robotics, integration and test, software engineering and simulations, configuration management, operations and maintenance for Goddard Flight Space Center; and Dr. Laurie Zoloth, a professor of medical ethics and Northwestern university. The Executive Director the NAC at the time was Karen Casper Feldstein, who had previously served as NASA's European Representative, located in France.

²⁷⁰ ECFWS, para. 463 (“It is clear that the US Government is not in the business of manufacturing LCA or its parts.”)

²⁷¹ NASA Aeronautics Research Directive, available at <http://www.aeronautics.nasa.gov/> (“Beginning with theoretical insight, augmented by research and testing in the laboratory and in flight, NASA scientists and engineers develop and use rich databases of information, unique analytical tools, and their singular expertise to close the gap between empirical and abstract knowledge. The results? Better design tools and technologies for improving vehicle and air system safety and performance.”) (Exhibit US-102).

²⁷² Under the AGATE program (ended in December 2001), NASA worked with a 40 principal members from industry, six associate members from industry and universities, and 30 supporting members from universities, industry and non-profit organizations to create a “Small Aviation Transportation System (SATS) as an alternative to short-range automotive trips for both private and business transportation needs.” Its aim was “to make single-pilot, light airplanes more safe, affordable and available as a viable part of the nation's transportation system.” AGATE Fact Sheet, available at <http://www.nasa.gov/centers/langley/news/factsheets/AGATE.html> (Exhibit US-103).

²⁷³ With respect to the Blended Wing Body, see Space Act Agreement 1-507 (Exhibit EC-401), and Space Act Agreement 1-640, (Exhibit US-70). With respect to the A380, the FAA's Obstacle Clearance Panel recently used the NASA B747-400 simulator to “evaluat{e} pilot-aircraft performance during balked landing operations. . . in support of an international effort being led by the International Civil Aviation Organization (ICAO). Their goal is to develop mathematical pilot models for use in defining obstacle free clearance zones for future new large aircraft (NLA).” Simulator Labs – NASA Newsletter, available at http://www.simlabs.arc.nasa.gov/newsletter/archive/newsletter_10_04.html#nla (Exhibit US-104) NASA also participated in the “WakeNet2-Europe” conference, where the A380 wake vortex assessment efforts were presented and discussed. WakeNet2-Europe, Wake data and safety assessment methods, Final Programme (Nov. 11-12, 2003) available at <http://www-mip.onera.fr/projets/WakeNet2-Europe/fichiers/pastEvents2003/london2003/workshopNov2003/programmeNov2003.htm> (Exhibit US-105).

(a) ACT/AST composites

Program goals: NASA-funded research on advanced composites was aimed at developing an emerging new class of lightweight material for a broad range of aerospace applications. These applications ranged from lightweight structures for aircraft, launch vehicles and spacecraft. The scope of the research spanned synthesis of advanced polymers, processing of composite performs, development of structural analysis models, failure prediction methodologies, and environmental effects databases. For aircraft, R&D was focused on lightweight structures for reduced emissions.

ACT/AST composites participants: American Airlines, ARPA, BASF, Bell Helicopter Textron, Boeing, Cal-Davis University, Dow Chemical, Federal Aviation Administration, Georgia Tech, Grumman, Hercules, Lockheed, McDonnell Douglas Corp, Northrop, Pratt & Whitney, Rockwell International Corp., Sikorsky, Stanford University, University of Delaware, University of Utah, U.S. Air Force, Virginia Tech.

(b) High Speed Research Program

HSR Goals: To address fundamental technical issues associated with high-speed civil transport and stimulate future technology development by industry.

HSR annual workshop participants: AS&M, Adsystem, Aeronautics and Space Board, Aerostructures Corporation, Air Line Pilots Assoc., Alcoa, Allied Signal, American Airlines, Arizona State U., ASE Technologies Inc. Astech, B. F. Goodrich, Ball Aerospace, Belcan, Bell, Benecor, Inc., Boeing, Calspan, CSC, Culver City Composites Corp., Cytec Fiberite, D. K. Schmidt & Assoc., Delta Air Lines, Inc., Donnelly Corp., DRA, Drexel University, Duke U., Dynacs Engineering Co., Inc., Econo Clean, Enders Assoc., Florida A&M, Georgia Tech., GATS Inc., Langley Research Center, General Electric, General Motors, George Washington University, High Tech Corp., Hoh Aeronautics, Inc., Honeywell, HTC, Imitec Inc., Innovative, Inquisi Tech, LARSS, MCAT, Inc., MDC, Metacomp Technology, MIT, MUSYN Inc., NATCA, NATCO, NCCOSC, NCI Info Sys, Northrop-Grumman, Northwest/ALPA, Nova Composites, NRC, NYMA, ODU, Parametric Tech., Pennsylvania State University, PPI Aviation Consulting, Pratt & Whitney, Princeton University, Purdue University, Raytheon, Research Integrations, Inc., Research Triangle Inst., RIACS, RMI Titanium Company, Rockwell, R-TEC, RTI, Sabre Decision Tech., San Jose State University, Scaled Composites, Inc., Seri Harvard Medical School, Sikorsky, SIRSI, SSC, Sterling Software, Inc., The Maurice Morton Inst. of Polymer Sci, Turner Engineering, University of New Mexico, University of Colorado, University of Dayton Research Institute., University of Florida, University of Maryland, University of Nevada, University of Virginia, University of Washington, University Res. Found., University of Southern California, University of California – Los Angeles, Unisys, United Airlines, United Technologies, University of Nevada Las Vegas, ViGYAN, VPI & SU, Wichita State University, and Wyle.

(c) Advanced Subsonic Technology Program

AST Goals: To develop basic technologies to enable a safe, highly productive global air transportation system.

AST ad hoc steering committee: Avrotec, Bell Helicopter Textron, Boeing, the Federal Aviation Administration (“FAA”), General Electric, Honeywell, Lockheed Martin, Pratt & Whitney, Rolls Royce Allison, United Airlines, United Technologies, U.S. Airways.

(d) High Performance Computing and Communications Program

HPCC goals: To accelerate the development and application of high-performance computing technologies to meet NASA’s own science and engineering requirements, particularly teraflops computer capabilities for computations design of aerospace vehicle systems and predictors of long-term global climate change.

HPCC-CAS Review and Planning Team: Allison Engine, Bell Helicopter Textron, Boeing, General Electric, General Motors, Lockheed Martin, Massachusetts Institute of Technology, McDonnell Douglas, Northrop Grumman, Princeton University, Rockwell International Corporation, Sikorsky Aircraft, Textron Lycoming, United Technologies, University of Cincinnati, University of Colorado, Vought Aircraft, Williams International.

(e) Aviation Safety Program

ASP goals: To prevent both unintentional and intentional events that could cause damage, harm and loss of life, and to minimize the consequences when these situations occur; safety objectives include demonstrations of technologies and strategies to reduce aircraft accident and fatality rates; for security, develop efficient technologies to reduce vulnerability of National Aviation System to terrorist attacks.²⁷⁴

Aviation Safety Program-Commercial Aviation Safety Team: Aerospace Industries Association, Airbus, Airlines Pilots Association, Allied Pilots Association, Air Transport Association, Boeing, FAA, Flight Safety Foundation, International Civil Aviation Organization, International Air Transport Association, Joint Aviation Authorities (now European Aviation Safety Agency), Pratt & Whitney (representing GE and Rolls Royce), Regional Airline Association.

²⁷⁴ For example, under the Aviation Safety Program, NASA worked in collaboration with the U.S. FAA, Transport Canada, the Civil Aviation Authority (United Kingdom), the Canadian Armed Forces, the University of Oregon, a fractional jet provider, and an airline to develop a free online course to help pilots avoid the hazards of ice contamination while their planes are on the ground. “NASA Develops New Online De-Icing Training Course for Pilots,” available at <http://www.sti.nasa.gov/tto/Spinoff2006/partnership.html> (Exhibit US-73).

(f) Quiet Aircraft Technology

QAT Program goals: To develop technologies to reduce perceived noise levels of future aircraft.

QAT technical working group: Airline Pilots Association, Air Transport Association, American Association of Airport Executives, Allison, Goodrich, Boeing, Cessna, O'Hare International Airport, Delta Airlines, Dallas-Forth Worth International Airport, FAA, Georgia Tech Research Institution, Gulfstream, General Electric, Harris, Miller, Miller & Harris, Honeywell, Landrum & Brown, Lockheed Martin, MIT, National Organization to Insure a Sound Controlled Environment, Northrop Grumman, Pratt & Whitney, Sikorsky, United Airlines, University of Mississippi, Williams International.

(g) Vehicle Systems Program/Fundamental Aeronautics Program

VSP Program goals: To protect the local and global environment by reducing noise, emissions and other contaminants, to enable more people and goods to travel faster and farther, anywhere, anytime with fewer delays, to enhance the nation's security through aeronautical partnerships with DoD and other government agencies, and to pioneer novel aeronautical concepts to support earth and space science missions and new commercial markets.

VSP workshop participants: A&M University, AERO Institute, AeroComposites, Aerospace Business Development Specialists, AeroVironment, Air Force Research Laboratory, Akoya, American Technology Alliances, Analex, Anteon, AS&M, ATK GASL, Aurora Flight Sciences, Belcan, Bell Helicopter Textron, Boeing, Booz Allen Hamilton, California Polytechnic State University, CENTRA Technology, Cessna, Consulting Aviation Services, DHC Engineering, FAA, Florida Solar Energy Center, Florida Tech, General Electric, General Aviation Manufacturers Association, Georgia Institute of Technology, Goodrich, Gulfstream, Hartzell Propeller, Honeywell, Iowa State University, Lockheed Martin, MIT, MI SATS, Mission Safety International, Munro and Associated, N&R Engineering, National Academies, National Institute of Aerospace, NAVAIR, New Vistas International, NexTechnologies, North Carolina A&T State University, North Carolina State University, Northrop Grumman, Ohio State University, Pax Scientific, Ponce de Leon Technology, Pratt & Whitney, Raytheon, Rolls Royce, RS Information Systems, Purdue University, SGT, Siemens Westinghouse, SOFCo-EFS Holdings, Stuart Graduate School of Business, Teledyne Continental Motors, Texas A&M University, Ohio State University, Toyota, U.S. Air Force, U.S. Army Research Laboratory, Universal Technology Corporation, University of California-San Diego, University of Florida, University of Miami, University of Toledo, University of Virginia, U.S. Army Aeroflightdynamics Directorate.

(h) R&T Base program

R&T Base Program Goals: Provide a foundation for the development of pre-competitive technologies across many disciplines for all vehicle classes.

R&T Base program/Airframe Systems subcommittee members: Recognizing that the R&T Base

Program as a whole was as broad as the entire aerospace community, the membership of just the Airframe Systems subcommittee included: Air Force Research Laboratory, Boeing, Colorado University, FAA, Gulfstream, Honeywell, Lockheed, Raytheon, University of Virginia and Vought.

194. Many of the participants in these programs are Airbus suppliers (General Electric and Rolls Royce), Airbus partners (Northrup Grumman), or Airbus customers (United Airlines, U.S. Airways, Delta Airlines).

2. *There is no support for the EC assumption that NASA “transferred” \$10.4 billion to Boeing.*

195. Over the past 30 years, NASA paid Boeing and McDonnell Douglas less than \$750 million to supply research services that advance NASA’s broad mission with regard to certain aeronautics research programs targeted by the EC. The EC mischaracterizes these purchases as “grants,” and using a highly distorted methodology values the “grants” at \$10.4 billion. As demonstrated above, the breadth of NASA aeronautics R&D extends well beyond Boeing, and well beyond commercial airframe manufacturers. Yet the EC’s approach in this case is to argue that NASA aeronautics R&D covers some of the same general areas of technology as Boeing large civil aircraft development and, therefore, that an amount of total NASA aeronautics R&D proportionate to Boeing’s share of U.S. commercial aircraft sales must accordingly have been “transferred” to Boeing.²⁷⁵ 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.

196. More important, however, is that the EC has not demonstrated that the government measures it challenged meet the definition of one of the listed financial contributions under Article 1.1(a), nor does it demonstrate that the government measures it challenges confer a benefit on Boeing under Article 1.1(b).

197. We begin with the numbers. The total \$10.4 billion that the EC alleges to be a subsidy to Boeing is comprised of funding from two different elements of the NASA budget: \$7.3 billion comes from the specific “program budgets” for the programs the EC has challenged, which covers funds paid to contractors and grantees, as well as the direct costs of the R&D that NASA

²⁷⁵ ECFWS, para. 78.

does in-house and \$3.3 billion comes from NASA’s overall “institutional support” budget, which covers NASA salaries, pensions, travel, facilities, G&A, and other overhead costs.²⁷⁶

198. With respect to the “program budgets”, the EC takes the full budget, subtracts an amount that it determines (without precision) is related to engines, and then – without any consideration of the nature or degree of Boeing’s participation in the program – allocates to Boeing a share equivalent to its share of U.S. civil aircraft sales. It then concludes – with no evidence – that this portion of the budget is a “grant.” This methodology leads the EC to conclude that, of the \$12.4 billion total NASA budget it calculates for these programs over 30 years,²⁷⁷ \$7.3 billion constitutes a “grant” to Boeing. The EC’s calculation results in a gross overstatement of Boeing’s participation in these programs. In fact, NASA’s records show that Boeing and McDonnell Douglas together actually received less than \$750 million over that 30 year period from these program budgets.²⁷⁸ The 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.²⁷⁹

199. With respect to the “institutional support” budgets, the EC takes the full amount of operational costs (more than \$30 billion²⁸⁰) for all of NASA and alleges that \$3.3 billion of that

²⁷⁶ ECFWS, NASA/DOD/DOC Aeronautics R&D Subsidies to Boeing LCA Division, pp. 3-4 (Exhibit EC-25). The EC’s figures – literally – do not always add up. The table in paragraph 27 of its first written submission reports alleged NASA subsidies of \$10,406 million, while its calculation exhibit reports alleged subsidies of \$10,549 million. The source of the difference is not clear. For the sake of consistency, we will use the \$10.4 billion figure in the first written submission as the total, and the \$7.3 billion and \$3.3 billion figures for the two elements of that figure, respectively, program budget and “institutional support” budget.

²⁷⁷ NASA’s records show that the total program budgets for the programs challenged by the EC is \$10.9 billion in “as budgeted” terms in the year of execution, rather than the \$12.4 billion alleged by the EC. The source of the EC’s error is unclear. It may have arisen from the EC’s arbitrary decision to subtract certain research projects from the programs under which they were actually funded, and add them into programs under which the EC apparently thinks they should have been funded. In any event, this error means that the base from which the EC then attempts to exclude engine-related funding and then allocate the rest to Boeing based on its proportion of civil aircraft sales (a completely inaccurate basis for allocation, as demonstrated *infra*) is overstated.

²⁷⁸ See below, Part IV, Section B.1.

²⁷⁹ Program budgets before 2004 include facilities costs and costs of goods and services procured from outside sources or subject to grants and cooperative agreements. They did not include civil servants’ salaries.

²⁸⁰ These costs were reported until FY 2004 in combined budget categories called Research and Program Management, Cost of Facilities and Research Operations Support. Starting in FY 2004, NASA adopted a “full cost” accounting methodology, under which each program budget contains not only the purchased goods and services, contracted support and facilities that it traditionally contained, but also the other direct program costs (including direct salaries, benefits and travel), the program’s share (based on its usage/consumption) of “service pool” costs (including IT, publishing, testing services, wind tunnel services), an allocated portion of G&A costs (including security, maintenance, public affairs, accounting, non-program facilities), and an allocated portion of NASA headquarter and Agency G&A. NASA, Full Cost Budgeting, FY 2004 Budget Estimates, p. S&AP 2-2 (Exhibit EC-

amount is a subsidy to Boeing large civil aircraft in the form of a provision of goods and services. To be clear, this “institutional support” was the money NASA spent on salaries for government employees performing government work, and the various expenses that they incurred on that work. The EC reaches its large number, *first*, by allocating the entire “institutional support” budget to aerospace/aeronautics, based on the proportion of full-time equivalent work years that NASA treats as pertaining to aerospace technology, and *second*, by allocating that amount of “aerospace institutional support” to Boeing based on the percentage of overall aerospace/aeronautics funding that it ascribes to Boeing.²⁸¹

200. The EC methodology essentially attempts to recreate the “full cost” accounting methodology that NASA adopted in 2004 (by which it now allocates all of its costs to specific programs), and use it as a basis for alleging an additional amount of subsidization on top of the program budgets discussed above. The calculation is invalid. *First*, NASA itself warned that “previous years’ budgets cannot be recalculated and presented in full cost since there is not a one-to-one relationship of previously used cost categories to the new full cost categories.”²⁸² *Second*, the EC allocates to Boeing a percentage of the artificially constructed total based on the same percentage that it uses to allocate program budgets to Boeing. As noted, that figure is greatly overestimated.

201. As a result, the EC grossly overstates NASA’s provision of goods and services to Boeing. 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 and McDonnell Douglas 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.²⁸³ NASA received adequate remuneration for the provision of these goods and services. Under the SCM Agreement, the value of the financial contribution from the provision of services is limited to the value of the goods or services provided, not the full cost to the government of building and maintaining the goods or services provided (in this case, NASA’s wind tunnels and personnel). The rest of the \$3.3 billion is NASA’s direct and indirect cost of existing as a government agency – including the cost of its scientists and engineers, administrators, security, information technology, and facilities.

202. Not only does the EC get the numbers very wrong, but, as a legal matter, it mischaracterizes the nature of the government measures at issue, and accordingly alleges subsidization where none exists under the SCM Agreement. The less than \$750 million in funds paid to Boeing and McDonnell Douglas over 30 years does not constitute a grant, as the EC

²⁸⁰(...continued)
315).

²⁸¹ Exhibit EC-25, pp. 3, 5-7.

²⁸² NASA, Full Cost Budgeting, pp. S&AP 2-4 (Exhibit EC-315).

²⁸³ Space Acts Agreement List (Exhibit US-74).

asserts in a single sentence without any supporting evidence.²⁸⁴ Rather, as the United States will demonstrate, these funds are paid as remuneration for the purchase of services, and as such do not meet the definition of a financial contribution under the SCM Agreement. Further, funds provided to entities other than Boeing are not a financial contribution to the U.S. large civil aircraft industry. The EC has not even asserted that they are – its argument simply assumes that the money paid to other entities is a grant to Boeing.²⁸⁵

203. The goods and services provided by NASA to Boeing are for adequate remuneration, contrary to another one-sentence, unsupported conclusion on the part of the EC.²⁸⁶ Accordingly, there is no benefit to Boeing under the SCM Agreement. In addition, the provision of wind tunnels is not specific to the U.S. large civil aircraft industry. The remaining bulk of the NASA institutional support budget is simply the cost of running a government agency, not a financial contribution under the SCM Agreement.

204. Thus, none of the NASA measures that the EC challenges are subsidies as defined in Article 1 of the SCM Agreement.

3. *NASA’s mission to promote “the expansion of human knowledge” brings the results of its research to the world aviation community, and other sectors as well.*

205. Before beginning a detailed rebuttal of each element of the EC claim, the United States returns to the context of what NASA actually does, in order to explain the basic flaw that causes the EC’s calculation of “R&D support to Boeing’s LCA division” to depart dramatically from reality.²⁸⁷ Specifically, the analytic flaws that pervade the EC’s allegation are that (1) it assumes that general U.S. government aerospace R&D programs are directed for Boeing’s benefit; and (2) it treats Boeing as if it were the primary company to which those programs applied.

206. These assumptions are simply not credible. The EC quotes a report by the U.S. Congressional Budget Office that finds “{t}he benefits from the R&D supported by the NASA programs in question fall almost exclusively to aircraft manufacturers, their suppliers, and

²⁸⁴ ECFWS, para. 457.

²⁸⁵ The United States notes that in another dispute involving large civil aircraft, the EC has argued that only the R&D grants provided directly to Airbus companies under an R&D program are subsidies to Airbus, and accordingly has refused even to provide information about grants *provided to other EADS subsidiaries* for large civil aircraft-related projects that could constitute a subsidy to Airbus. Yet, here, the EC alleges an amount of subsidization that includes R&D funding provided to entities that have no relationship at all to Boeing, let alone to BCA, the division that produces large civil aircraft.

²⁸⁶ ECFWS, para. 527.

²⁸⁷ ECFWS, para. 476. Although the Panel does not need to quantify with precision the amount of subsidization under Article 1, the magnitude of the subsidy measurement is relevant for the purpose of assessing adverse effects under Articles 5 and 6.

airlines.”²⁸⁸ Yet it allocates NASA R&D according to a ratio that uses “complete civil aircraft shipments” as the denominator.²⁸⁹ By doing so, the EC ignores all of the other entities – supplier companies, air transportation providers, military aerospace companies, and numerous non-commercial entities (e.g., universities, students, other government agencies) that have a direct interest in aerospace and have reference to the work NASA does. Additionally, the EC ignores the non-aerospace companies that benefit from NASA’s work, including entities working in fields where advanced materials, electronics, and aerodynamics, to name a few, are implicated.

207. To elaborate, first, the EC has ignored the entire U.S. (non-engine) aerospace supplier community. Census data demonstrate that in 2002, for example, civilian aircraft manufacturers reported shipments valuing \$38.7 billion. Their value added portion, however, was only \$17.0 billion, whereas the total cost of materials was \$20.3 billion. That cost of materials figure represents the large supplier-provided value in each aircraft sale.²⁹⁰ In fact, many of these suppliers, including Vought, Honeywell, and Goodrich, receive direct NASA contract funding under the challenged programs. Another important fact in considering the range of entities that benefit from NASA funding is that many of these suppliers, including Vought, Honeywell, and Goodrich, are major suppliers of Airbus.²⁹¹ These companies also serve the full range of global aerospace companies; just one example is that Honeywell, one of the largest NASA aeronautics contractors (including as a “team member” and “flight deck partner” on the High Speed Research Program²⁹²), sells hundreds of aeronautics products to a global customer base, including its recent selection by Air France to provide its Runway Awareness Advisory System for 248 of its Airbus and Boeing aircraft.²⁹³

²⁸⁸ ECFWS, para. 493, quoting Congressional Budget Office, Reducing the Deficit: Spending and Revenue Options (Exhibit EC-307). The opinion of the CBO expressed in this documents focuses solely on the AST and HSR elements of the NASA budget, not on any of the other programs challenged by the EC. Additionally, the United States notes that the CBO’s used of the term “benefit” does not reflect the meaning of the term under Article 1.1(b).

²⁸⁹ The EC calculation is based on data in the AIA Aerospace Facts and Figures report, which in turn is based on data for “complete aircraft shipments” reported in the U.S. Bureau of the Census “Aerospace Industry” (Orders, Sales and Backlog) annual report, available at <http://www.census.gov/cir/www/336/ma336g.html> (Exhibit US-75). To begin to fill out the picture of the U.S. aerospace industry, the United States provides a 18 page, small-type list of U.S. aerospace supplier companies as collected in the World Aviation Directory (Summer 2007), pp. 218-236 (Exhibit US-76).

²⁹⁰ Aircraft Manufacturing: 2002, Industry Series (issued December 2004), available at <http://www.census.gov/prod/ec02/ec0231i336411.pdf> (Exhibit US-77).

²⁹¹ Airbus lists its major U.S. suppliers as including Alcoa, Eaton, Goodrich, GE, Honeywell, Northrop Grumman, Rockwell Collins, United Technologies and Vought Aircraft, and smaller suppliers include Faber, Electroimpact and GKN Aerospace) Airbus in North America, available at http://www.airbus.com/en/worldwide/airbus_in_north_america.html (Exhibit US-78).

²⁹² NASA High Speed Research Program, available at <http://oea.larc.nasa.gov/PAIS/HSR-General.html> (Exhibit US-79)

²⁹³ Honeywell, 2007 Annual Report, p. 20 (Exhibit US-80).

208. Given that much of the general aeronautics-related R&D that NASA conducts may also be relevant for military aircraft configurations, the EC's focus only on civil aircraft manufacturers artificially excludes all of the military aircraft manufacturers, including Lockheed Martin, Northrop Grumman and United Technologies, and their suppliers, many of whom are also NASA contractors.²⁹⁴ Additionally, the EC's narrow focus excludes the many universities that receive grants from NASA, and which also license technology to and work collaboratively with U.S. and global civil and military aircraft manufacturing companies, including Boeing and Airbus.²⁹⁵

209. The range of aerospace entities is demonstrated by the list of participants in the challenged programs, provided above. In addition, the innumerable U.S. and non-U.S. persons attend the international conferences and have access to the public database of technical reports that NASA hosts benefit from NASA R&D.²⁹⁶ NASA personnel attend and present their work at international conferences (attended by both Boeing and Airbus, among many others), including the AIAA 2006 Aeroacoustics Conference,²⁹⁷ and the 2001 NASA/FAA Operating Documents Workshop.²⁹⁸ Additionally, technical reports on all NASA-funded R&D are accessible through

²⁹⁴ As discussed further in Part III, DoD generally funds the development of military-application technologies that the commercial market would not otherwise develop, but commercial technologies are often (and increasingly) used for military applications.

²⁹⁵ For example, the University of California-Davis, Georgia Tech, Stanford University, University of Delaware, University of Utah and Virginia Tech were all participants in the ACT/AST Composite Program that the EC challenges. Georgia Tech, for example, owns two patents on composite technology inventions made with NASA funding under NAG-1-864 – US Patent No. 5171630, a flexible multiply towpreg (Exhibit US-81) and U.S. Patent No. 5094883 (Exhibit US-82) a flexible multiply towpreg and method of production therefor. The patents are held by the University through its cooperative organization Georgia Tech Research Corporation, which contracts and is paid for the research done at Georgia Tech, and licenses its patents to industry through its Office of Technology License. See About Georgia Tech Research Institute, <http://www.gtrc.gatech.edu/about.shtml> and About OTL, <http://otl.gtrc.gatech.edu/sect/about> (Exhibit US-83). Similarly, Virginia Tech owns U.S. Patent No. 5515444, active control of aircraft engine inlet noise using compact sound sources and distributed error sensors, which was made under NAS 1-18471. (Exhibit US-84). It is assigned to Virginia Tech Intellectual Properties, Inc., which was formed, in part, to identify, legally protect, and market intellectual properties resulting from research at Virginia Tech. About Virginia Tech Intellectual Properties, <http://www.vtip.org/about/> (Exhibit US-85).

²⁹⁶ The few reports under each program that were subject to temporary limited distribution restrictions were nevertheless available during that time to all of the U.S. companies that worked on the program. Many of them supply parts to aerospace companies around the world, including Airbus. Additionally, the limited data generated by NASA R&D that is subject to the ITAR (described in Part III, Section C.4) are effectively impossible to export. It is effectively impossible to use them in active large civil aircraft operations.

²⁹⁷ AIAA 2006 Aeroacoustics Conference, available at <http://www.aiaa.org/content.cfm?pageid=230&lumeetingid=1268> (Exhibit US-86). NASA presentations/papers at the conference included: M. Jones and T. Parrot, NASA Langley Research Center, Assessment of Bulk Absorbers Properties for Multi-Layer Perforates in Porous Honeycomb Liners; and D. Palumbo, NASA Langley Research Center, Characteristic Lifelength of Coherent Structure in the Turbulent Boundary Layer.

²⁹⁸ 2001 NASA/FAA Operating Documents Workshop, available at <http://human-factors.arc.nasa.gov/opdoc-workshopIV/> (Exhibit US-87).

its server²⁹⁹ and many are digitally available on the website, although some must be ordered through the NASA Center for AeroSpace Information (CASI) for a nominal fee.³⁰⁰ The NASA site contains the full body of work funded by NASA over the period in which subsidies are alleged by the EC – for instance, a search for the word “composite” returns 16,585 records, including reports by NASA employees, university researchers and industry contractors. The usefulness of the server is demonstrated by the fact that the U.K.’s Cranfield University, which often works collaboratively with Airbus, and other foreign research institutions, maintains a link to NASA’s technical reports as part of its own on-line library.³⁰¹

210. And, finally, the EC ignores the many non-aerospace companies that benefit from NASA aeronautics R&D and infrastructure, including producers of turbine blades, automobiles and boats.³⁰²

211. In short, the total funding provided to Boeing and McDonnell Douglas in remuneration for services purchased under the challenged programs is less than \$750 million over 30 years, and the total value of the goods and services provided to the U.S. large civil aircraft industry is similarly limited, and all of it is adequately remunerated. The following sections further dissect and clarify the actual nature of the amounts that the EC would like the Panel to believe is all provided as a subsidy to Boeing. The United States will analyze the factual and legal nature of each distinct government action lumped together in the EC allegation, and demonstrate why none meets the definition of a financial contribution under Article 1.1(a) or confers a benefit under Article 1.1(b).

²⁹⁹ <http://ntrs.nasa.gov/search.jsp>.

³⁰⁰ Prices are available at <http://www.sti.nasa.gov/cprice.pdf>, NASA Center for AeroSpace Information (CASI) (Exhibit US-88).

³⁰¹ The website also contains direct links to “4,900 full text reports which originated from the NASA Langley Technical Reports Server” that it apparently considers particularly useful for its students. Cranfield University, Aerospace and Defense Resources, available at http://aerade.cranfield.ac.uk/aerodef_index.html and http://aerade.cranfield.ac.uk/aerodef_browsen.html. (Exhibit US-89) There are also links to the NASA technical reports servers on the websites of, for example, University of Wuerzburg (Germany) <http://www.mineralogie.uni-wuerzburg.de/links/literature/abstracts.html> (Exhibit US-90) and the University British Columbia (Canada) <http://toby.library.ubc.ca/resources/infopage.cfm?id=869> (Exhibit US-91).

³⁰² For example, US Patent No. 6705838 (owned by a Danish company) describes a wind turbine blade that is based on a NASA-developed airfoil shape, with a further-modified leading edge. NASA-funded hydroplaning research studied in the context of aircraft landing on runways with water resulted in the grooving of a number of interstate highways. (Exhibit US-92). With respect to facilities, NASA actively advertises the utility of its windtunnels for “non-traditional” customers such as automotive, submersible, and recreational users. NASA Wind Tunnel Enterprise Information Sheet, available at <http://windtunnels.larc.nasa.gov/enterprise.htm> (Exhibit US-93).

B. The Only Payment of Funds to Boeing Under the Programs Targeted by the EC Were Purchases of R&D Services Worth Less Than \$750 Million, Which Do Not Constitute a Financial Contribution under the SCM Agreement.

1. *The actual amount that NASA paid Boeing is 1/10th the amount claimed by the EC.*

212. Although the EC alleges that \$7.3 billion of the combined “program budgets” for each challenged program is transferred to Boeing and McDonnell Douglas, NASA records show that less than \$750 million was paid to these companies for the purchase of services under the programs challenged by the EC over 30 years.

Payments to Boeing under the NASA Aeronautics Programs Challenged by the EC

	Disbursements to Boeing/ McDonnell Douglas ³⁰³	NASA program budget (as budgeted) ³⁰⁴	Boeing contract percentage of total NASA budget
ACEE	\$ 66 million (estimate)	\$130 million	51% (estimate) ³⁰⁵
ACT and AST composites ³⁰⁶	\$132 million	\$258 million	51%
High Speed Research	\$325 million	\$1,583 million	21%
Advanced Subsonic Technology	\$ 86 million	\$715 million	12%
HPCC	\$ 2 million	\$348 million	1%
Aviation Safety Program	\$ 19 million	\$829 million	2%
Quiet Aircraft Technology	\$ 6 million	\$230 million	3%
Vehicle Systems Program	\$ 12 million	\$1,329 million	1%
R&T Base	\$ 67 million	\$5,525 million	1%
Total	\$715 million (estimate)	\$10,946 million	7% (estimate)

2. *NASA's contracts with Boeing constitute purchases of services, and are thus not financial contributions under the SCM Agreement.*

213. The legal characteristics of NASA contracts, and the actual value that NASA receives in exchange for the funds it spends, demonstrate that these instruments constitute a “purchase” in accordance with the ordinary meaning of that term and in light of the context of Article 1.1(a)(1)(iii). As the purchased item in each instrument is research services, they represent government purchases of services and, as such, are not financial contributions within the

³⁰³ Disbursements are the cumulative amounts paid to Boeing and McDonnell Douglas under R&D contracts. They are a very close approximation of true amounts, but may not be exact because of changes in record keeping over the past 30 years. Disbursements for a particular contract are allocated to a single program, even if multiple programs use the same contract. Finally, the numbers reflect actual disbursements to Boeing, which may differ from the amounts planned at the beginning of each contract and written in the contract documents. Amounts actually paid under time and materials contracts may vary from anticipated amounts if contracted tasks take more or less time than anticipated; the difference may also reflect the drying-up of budget pools and cancellation of contracted work.

³⁰⁴ Section A.2 contains a description of how NASA arrived at this number, and why it may differ from the figures calculated by the EC.

³⁰⁵ NASA is required by U.S. law to retain documents in its files for 15 years. The documents relating to company-specific disbursements under the ACEE Program are older than that, and are no longer available in NASA's files. The total program spending, however, was available. We estimated the payments to Boeing as being equal to the same percentage of total program spending as was true for ACT.

³⁰⁶ Includes, per EC calculation, the budget for the AST composites project.

meaning of Article 1.1(a)(1). Therefore, they cannot be actionable subsidies.

214. The contracts that the EC attaches as exhibits to its submission are agreements to exchange value for value. They create “a mutually binding legal relationship obligating the seller to furnish supplies or services (including construction), and the buyer pays for them.”³⁰⁷ Each transaction is initiated by a public solicitation, which contains a “clear and complete work statement” defining the object of the acquisition in terms of “task-completion” or “level of effort” depending upon the nature of the project to be performed.³⁰⁸ Any potential contractor “must fully understand the details of the work, especially the Government interpretation of the work statement.”³⁰⁹ The EC has provided examples of solicitation documents at Exhibits EC-323, EC-588, EC-589, and EC-613.

215. A contractor is then selected from among those bidders that are “technically qualified to perform” the project, based on the value of its cost proposal, the quality of its ideas or concepts and its level of competence in the specific field or science or technology involved.³¹⁰ The document submitted by the EC as Exhibit EC-947, for example, explains the selection of McDonnell Douglas for a contract task on the grounds that its proposal “demonstrated a thorough understanding” of the technical activities proposed, and included “a highly qualified, multi-disciplinary team with extensive experience in all proposed research areas.”³¹¹ If NASA does not hold a full and open competition, 10 § U.S.C. 2304 (c) requires that it provide a justification under U.S. law explaining why it did not. For example, the source selection memo submitted by the EC as Exhibit EC-365 explains that with respect to the contract award at issue, Boeing was already “providing NASA R&D services in support of this {AST} program” under a different contract and “{a}s the premier manufacturer of subsonic transport aircraft in the world and as an active participant in the AST Noise Reduction program, BCAG has assembled uniquely qualified personnel, facilities, manufacturing capabilities and data base systems which will enable Boeing to perform the requirements of the proposed contract efficiently and expeditiously, without any duplication of effort.”³¹²

216. Once a contract is awarded, the contractor performs and NASA has the right to inspect

³⁰⁷ *NASA Grants and Cooperative Agreement Handbook* §1260.12(b)(1) (Exhibit US-94)

³⁰⁸ FAR Part 35.005(a) and (c) (Exhibit US-95).

³⁰⁹ FAR Part 35.007(g) (Exhibit US-95).

³¹⁰ FAR Part 35.007(a) and 35.008(a) (Exhibit US-95).

³¹¹ Selection Statement, Research in Airplane Acoustics and Noise Control, NAS1-20103 (Exhibit EC-847). Selection Statement, Integrated Wing Design, Technology Integration and Environmental Impact, NAS1-20267 (Aug. 12, 1994) (Exhibit US-96) (explaining that “{b}ased on their superior Mission Suitability proposals and lower proposed and total probable costs, Boeing Commercial Airplane Group and McDonnell Douglas Aerospace are selected.”).

³¹² Memorandum to Research and Focused Programs Contracts Branch (May 23, 1996) (Exhibit EC-365).

and evaluate the work being performed.³¹³ If performance is not in accordance with the agreement, NASA has several options. NASA may demand correction of the work, it may cancel the contract, and it may report the unsatisfactory performance to a government-wide database. This last action would disadvantage the contractor from obtaining future government contracts. The contract additionally specifies the deliverables, including that the contractor must “furnish scientific and technical reports, consistent with the objectives of the effort,” and grants the government an irrevocable paid-up license to use the data and any inventions developed under the contract.³¹⁴ That NASA states what it wants, pays only for that task, and receives the service and intellectual property for which it paid, demonstrating quite clearly that NASA is making a purchase.³¹⁵

217. It is also clear that what NASA bought was a service. As noted in Part III, Section B.1, research and development is a service for purposes of the GATS, the U.N. Central Product Classification, and the U.S. and EC procurement systems. And research is exactly what NASA bought.³¹⁶ Therefore, the NASA R&D contracts were purchases of a service and accordingly were not a financial contribution.

3. *The EC’s cursory one-sentence assertion that NASA contracts were “in reality grants to Boeing-MD” fails to meet the EC’s burden of proof.*

218. The only “analysis” the EC provides to meet its burden to proof with regard to the existence of a financial contribution is the assertion that NASA received “nothing of value” in exchange for the funds it paid to Boeing³¹⁷ and that, therefore, what NASA calls a “contract” is “in reality grants to Boeing-MD.”³¹⁸ In fact, as described above, the EC attempts to challenge a

³¹³ 48 C.F.R. § 46.309 (Exhibit US-97) and 48 C.F.R. § 52.246-9 (Exhibit US-98). E.g., NAS1-20546 (Exhibit EC-324), Section 4.0 (setting out the “Contractor Work Units”) and modifications as specified in Section H.1F; Section E (inspection and acceptance clause), and Section F.3 (milestone and delivery schedule)

³¹⁴ 48 C.F.R. §§ 35.011 and 35.010 (Exhibit US-99); 48 C.F.R. § 1835.070 (Exhibit US-100); 48 C.F.R. § 1852.227-70 (Exhibit US-101); 48 C.F.R. § 1827.302(c) (Exhibit US-102); 48 C.F.R. § 52.227-14 (Exhibit US-103); 48 C.F.R. § 1852.227-14 (Exhibit US-104). NAS1-20546 (Exhibit EC-324), Section H.9(c) (1), Data first produced in performance of this contract.

³¹⁵ As noted above, this government action is very different from the grants that the EC has elsewhere admitted it provides to Airbus.

³¹⁶ Any goods involved (such as test models) are incidental to the research service of providing NASA with the benefit of Boeing scientists’ expertise.

³¹⁷ That Boeing’s services have value is confirmed by the fact that commercial entities also pay Boeing to perform research services through its Boeing Technical Services division. Boeing Technology Services website and request for quotations, available at <http://www.boeing.com/commercial/techsvcs/boeingtech/index.html> (Exhibit US-105).

³¹⁸ The EC has elsewhere acknowledged that it provides R&D grants to Airbus through the Framework Program – that is, it provides money to a consortium to do a task defined by the consortium, and the consortium does not provide the results (nor an intellectual property right in the results) back to the government funders. However,

(continued...)

government action – a purchase of services – that is not a financial contribution,³¹⁹ and seeks to avoid the implications of that fact by redefining NASA’s purchase of services as a transfer of funds that constitutes a “grant.” This argument is untenable. First, as just explained, the transaction is a purchase of services. Second, the EC argument rests on a misinterpretation of the phrase “transfer of funds.” Specifically, the EC argues that the ordinary meaning of “transfer of funds” simply refers to the conveyance of financial resources from one entity to another.”³²⁰ But the ordinary meaning of words must be interpreted “in their context” and may not be interpreted so as to render other provisions of the same treaty meaningless.³²¹ Most purchases involve a transfer of funds as an element of the transaction; thus, the EC’s attempt to classify NASA purchases of services as grants on this basis would render Article 1.1(a)(1)(iii) *inutile*, and, moreover, make ineffective the clear instruction of the drafters to exclude the purchase of services from the disciplines of the SCM Agreement.

219. The EC’s effort to evade the substantive nature of the NASA-Boeing transactions also fails because it relies on a misstatement of the facts – that “the US Government is not in the business of manufacturing LCA or its parts” and, therefore, cannot possibly receive anything of value in return for the R&D payments it makes to Boeing.³²² In the EC’s view, because the results of the contracted services (what the EC calls “knowledge”) may also be useful for Boeing’s large civil aircraft business, “Boeing’s LCA division is the only direct beneficiary of the elements of the R&D programmes that develop new technology for LCA.”³²³ Both of these steps in its reasoning are incorrect.

220. First, the EC’s focus on large civil aircraft ignores the greater part of the mission given to NASA by its founding law – “the expansion of human knowledge,” “the establishment of long-range studies of the potential benefits to be gained from, the opportunities for, and the problems involved in the utilization of aeronautical and space activities for peaceful and scientific purposes,” and “the improvement of the usefulness, performance, speed, safety, and

³¹⁸(...continued)

just because the EC provides grants to its aerospace industry does not support the conclusion that the US government acts similarly.

³¹⁹ *US – Lumber CVD* (final), para. 7.29 (“{T}he definition of a subsidy in Article 1 SCM Agreement reflects the Members’ agreement that only certain types of government action are subject to the SCM Agreement, and also that not all government actions that may affect the market come within the ambit of the SCM Agreement.”).

³²⁰ ECFWS, para. 72.

³²¹ Under public international law principles of treaty interpretation, that every provision should be interpreted to have meaning. The Appellate Body has applied this principle of effectiveness: “One of the corollaries of the ‘general rule of interpretation’ in the Vienna Convention is that interpretation must give meaning and effect to all the terms of a treaty. An interpreter is not free to adopt a reading that would result in reducing whole clauses or paragraphs of a treaty to redundancy or inutility.” *US – Gasoline*, WT/DS2/AB/R, p.23.

³²² ECFWS, para. 463.

³²³ ECFWS, para. 463.

efficiency of aeronautical . . . vehicles” – which drive its purchasing requirements.³²⁴ The only element of the NASA mission that appears in the EC description is the goal of fostering competitiveness of the entire U.S. aerospace industry.

221. In fact, given both the industry-focused element of its mission, as well as the government-focused elements (i.e., “the making available to agencies directly concerned with national defense of discoveries that have military value or significance”) and the international-focused element (“cooperation by the United States with other nations and groups of nations in work done pursuant to this Act and in the peaceful application of the results thereof”), NASA’s mission, at the broadest level, can be seen as the building of general aerospace infrastructure – technical libraries and facilities – out of the R&D it does itself, the R&D it funds via grant, and the R&D it funds under contracts.

222. Second, even taking the distorted view of looking only at NASA’s role in fostering the competitiveness of the U.S. aerospace industry, the EC narrows the view still further, to treat Boeing as if it were all or almost all of the industry. As described in Section A.1, this view disregards the breadth of the aerospace industry, which encompasses military aircraft producers, producers of aerospace components, and producers of inputs and supplies for producing those components.

223. Third, the technology developed under the programs challenged by the EC is relevant to a broad range of companies beyond those that produce large civil aircraft.³²⁵ The EC significantly overstates the relevance of NASA-funded R&D to the development and production of large civil aircraft.

224. As a legal matter, however, the EC’s extended discussion of what it believes Boeing learned in the course of performing these contracted services is irrelevant in determining whether the transaction in question is a purchase.³²⁶

³²⁴ Space Act, Section 102(d) (Exhibit EC-268). Additionally, Section 103(1) of the Space Act further defines the “aeronautical and space activities” of the United States over which NASA is given control includes “(A) research into, and the solution of, problems of flight within and outside the Earth’s atmosphere; (B) the development, construction, testing, and operation for research purposes of aeronautical and space vehicles; (C) the operation of a space transportation system including the Space Shuttle, upper stages, space platforms, and related equipment; and (D) such other activities as may be required for the exploration of space.”

³²⁵ The list of “beneficiaries” includes producers of regional jets, business jets, general aviation, civil rotorcraft, military aviation and the thousands of companies that design, develop and produce aerostructures, avionics, landing gear, and other parts for all of these aircraft, as well as airlines, airports, and the government agencies tasked with air safety and air traffic control.

³²⁶ As discussed in Part III, Section B, it is a standard commercial practice for a service provider to utilize knowledge and experience gained from previous business in the conduct of its future business. Similarly, the non-exclusive intellectual property rights that Boeing retains, enabling it to use the data and inventions resulting from the services performed, are part of the negotiated purchase contract terms, as discussed in Section VI, and do not convert the purchase into a different sort of transaction.

225. In conclusion, the terms of Boeing's contracts with NASA and the circumstances of their performance makes it clear that these are purchase transactions under which funds are paid for services of equal value, as negotiated by the parties at arms length.³²⁷ Because the government action in this case is a purchase of services, and purchases of services are not covered by the terms of the SCM Agreement, the Panel's analysis under the SCM Agreement should end there.

4. Funding provided to other NASA contractors and grantees is not a subsidy to the U.S. large civil aircraft industry.

226. The remaining \$6.48 billion of the NASA program budgets that the EC allocates to Boeing on the basis of its share of complete civil aircraft sales are neither funds provided to Boeing nor properly allocable to Boeing. To the contrary, it is funding provided to other unrelated entities – contract funding and grants provided to companies and universities, as well as funding spent in-house by NASA researchers.³²⁸ For example, under the High Speed Research program, Honeywell, Lockheed Martin and Northrop Grumman received significant contract awards.

227. As a legal matter, none of this \$6.48 billion is a subsidy to the U.S. large civil aircraft industry, which the EC has defined exclusively as Boeing and McDonnell Douglas.³²⁹ First, much of the money is provided as remuneration for the purchase of services from other contractors, and, accordingly, is not a subsidy at all. But, more importantly, the EC has not demonstrated that the provision of any NASA funds to entities unrelated to Boeing constitutes a grant, a provision of a service, or any other form of financial contribution (let alone benefit) to Boeing.

228. Furthermore, the EC's inclusion of this funding is inconsistent with positions it has taken in this and other matters. First, the logic of the EC's own complaint in this case, according to

³²⁷ The fact that NASA pays fair value for the services it receives is relevant under Article 1.1(a) for the purpose of demonstrating that the challenged measures are purchase. The measurement of the adequacy of the remuneration is not, however, properly addressed under Article 1.1(a), but instead is reserved for Article 1.1(b). As the Appellate Body has found, the "focus of the first element {Article 1.1(a)} is on the action of the government in making the 'financial contribution.'" *Canada-Aircraft* (AB), para. 156.

³²⁸ Moreover, much of the less than \$750 million that was provided directly to Boeing was actually passed along to other companies. For instance, the High Speed Research program had 40 major subcontracts; the program was structured such that Boeing effectively served as a consortium leader, disbursing funding to these other entities. NASA High-Speed Research Program, available at <http://oea.larc.nasa.gov/PAIS/HSR-General.html> (Exhibit US-106). The United States notes that the EC has elsewhere taken the position that where Airbus is part of a consortium that receives EU Framework R&D funding, only those funds provided directly to and spent directly by Airbus are attributable to Airbus, even where it shares the full results of the work done by other related and unrelated consortium members.

³²⁹ ECFWS, para. 22.

which it excludes funding related to engines,³³⁰ requires the exclusion of all funds related to other components and supplies sold in the market, including many of the largest commercial recipients of NASA aeronautics funding, such as Honeywell, Vought, and Goodrich. The same logic also applies to universities, which collaborate with both Boeing and Airbus. For example, Airbus, Boeing, Gulfstream, and Dassault were all participants (and even presenters on the same panel), as were many U.S. and European government agencies, at the AIAA/AAAF 2005 Aircraft Noise and Emissions Reduction Symposium, where Ian Waitz, an MIT Professor and Director of an FAA/NASA/TC-sponsored Center of Excellence – delivered a paper entitled, “Are there Practical Solutions to Reduced Noise and Emissions?”³³¹ Second, it is directly contrary to the position the EC has taken elsewhere that R&D grants provided to non-Airbus entities, including other related EADS subsidiaries, are not subsidies to Airbus. In light of this position, the EC cannot credibly argue in this matter that any funding provided to companies unrelated to Boeing constitute subsidies to Boeing.

229. In short, the \$6.48 billion that the EC attributes to Boeing on the basis of an inaccurate allocation of the NASA program budgets is not a subsidy to Boeing – neither under the terms of the SCM Agreement nor according to the EC’s own legal positions.

C. NASA’s Provision of Goods and Services to Boeing Is Always Adequately Remunerated.

1. NASA provides goods and services to Boeing pursuant to Space Act Agreements.

230. The EC also challenges NASA’s provision of “government-owned property”, “institutional support” and “dedicated federal scientists, engineers, and research facilities” to Boeing.³³² In fact, the EC challenges the same measures twice: first in Section E – “US Aeronautics R&D subsidies” and again in Section H – “NASA/DoD Facilities, Equipment and Employees.” The United States will respond only once.

231. Where NASA provides such services to Boeing, it does so pursuant to Space Act Agreements (also known as “SAAs”).³³³ Before turning to the specific EC allegations, the

³³⁰ ECFWS, para. 76.

³³¹ Ian Waitz, *Are there Practical Solutions to Reduced Noise and Emissions?* (May 2005), available at <http://www.aiaa.org/content.cfm?pageid=230&lumeetingid=1141&viewcon=other261&id=261> (Exhibit US-107).

³³² ECFWS, para. 524.

³³³ With respect EC’s specific allegation regarding NASA’s provision to McDonnell Douglas of “two stitching machines at no charge, the acquisition cost of which totaled \$330,000,” (ECFWS, para. 524, n. 827), the United States notes that the machines were not provided as a distinct government action, but rather as an integral element of the terms of the contract for purchases of services between NASA and McDonnell Douglas. Under contract NAS1-20546, Section G.4 is a “List of Government-Furnished Property”, stating that “{t}he Contractor shall use {the stitching machines} in the performance of this Contract.” (Exhibit EC-324) These terms demonstrate

United States first notes that when the EC argues that “{t}hese {Space Act} Agreements provide for collaboration between {NASA and Boeing} on R&D projects of interest to the U.S. large civil aircraft industry,”³³⁴ it demonstrates a fundamental misunderstanding of the purpose of Space Act Agreements and, accordingly, of the context in which NASA provides goods and services to other entities. NASA does not make provisions of goods and services for the benefit of the recipient. Rather, as NASA’s policy directive governing Space Act Agreements explains:

Under its Space Act authority, NASA has entered into a great number of agreements with diverse groups of people and organizations, both in the private and public sector, *in order to meet wide-ranging NASA mission and program requirements and objectives*. It is NASA’s policy to utilize the broad authority granted to the Agency in the Space Act to further the Agency’s missions.³³⁵

232. The EC ignores this mandate. It similarly disregards the actual terms of the Space Act Agreements under which NASA provides goods and services to Boeing. Specifically, NASA uses two different types of Space Act Agreement – reimbursable and non-reimbursable – and, in both situations, it requires and receives adequate remuneration, either in the form of funds (where the Space Act Agreement is reimbursable) or in the form a *quid pro quo* provision of goods and services (where the Space Act Agreement is non-reimbursable). The United States will first provide a short discussion of the legal framework governing both reimbursable and non-reimbursable Space Act Agreements, and then proceed to discuss the EC’s specific allegations under the SCM Agreement.

233. NASA provides goods and services under reimbursable Space Act Agreements when it “has unique goods, services, and facilities, not being fully utilized to accomplish mission needs, which it can make available to others on a noninterference basis, consistent with the Agency’s missions.”³³⁶ NASA requires full reimbursement, defined as “full cost recovery” for the goods,

³³³(...continued)

that NASA is contracting with Boeing to use its property on its behalf. The value of the “government-furnished property” provided in the context of a purchase agreement is, accordingly, properly treated as part of the remuneration paid for the purchase of services. We note that, as the machinery proved not to be useful for actual production, its market value to Boeing was substantially less than its cost to the government.

³³⁴ ECFWS, para. 501

³³⁵ NASA Policy Directive 1050.1H, p. 1 (“NPD 1050.1H”) (Exhibit US-108).

³³⁶ NPD 1050.1H, at 1(a) (Exhibit US-108). In fact, NASA is often seeking business. *E.g.*, SAA1-738, Post-Buckling Analysis (Exhibit US-509) (stating that the purpose of the agreement is “to provide Buyer {Boeing} those services, uses of facilities, or materials described”, “Buyer {Boeing} is responsible for actual costs” and “{NASA} will supply the test results to Boeing and will publish the final test methods. If successful, this project could lead to future work with Boeing.”).

services or facilities provided,³³⁷ where it does not receive any benefit from the use of its facilities.³³⁸ However, NASA also has the authority to accept partial reimbursement where a “proposed contribution of the Agreement Partner is fair and reasonable compared to the NASA resources to be committed, NASA program risks, and corresponding benefits to NASA.”³³⁹ Where NASA is “obtaining rights to intellectual property or data or some other benefit,” there is a presumptive NASA interest that may justify partial reimbursement.³⁴⁰ In partial reimbursement situations, NASA policy is that “{a} determination to charge less than full cost should: (1) be accomplished consistent with NASA's written regulations and policies, (2) articulate the market pricing analysis, benefit to NASA, or other legal authority that supports less than full cost recovery, and (3) account for recovered and unrecovered costs in accordance with NASA financial management policy.”³⁴¹

234. 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.”³⁴² In these situations, “each party bears the cost of its participation and there is no exchange of funds between the parties.”³⁴³ However, when the EC quotes from the terms of a nonreimbursable Space Act Agreement as providing for “no transfer of funds or other financial obligation between NASA . . . and Boeing . . .”, it omits all references to the significant goods and services that Boeing is obligated to provide under the specific Space Act Agreements it cites and all other non-reimbursable Space Act Agreements.³⁴⁴ NASA requires, under all non-reimbursable Space Act Agreements, that “the respective contributions of each Agreement Partner must be fair and reasonable compared to the NASA resources to be committed, NASA program risks, and corresponding benefits to NASA.”³⁴⁵

235. The fact is that NASA generally uses non-reimbursable Space Act Agreements not to provide its R&D services to other entities, but as an alternative means of inducing other entities to commit their resources to advance NASA’s objectives.³⁴⁶ Thus, non-reimbursable Space Act

³³⁷ NPD 1050.1H, p. 1(a) (Exhibit US-108).

³³⁸ NASA Advisory Implementing Instruction 1050-1, p. 12 (“NAII 1050-1”) (Exhibit US-110).

³³⁹ NPD 1050.1H, p. 1(a) (Exhibit US-108).

³⁴⁰ NAII 1050-1, p. 12 (Exhibit US-110).

³⁴¹ NAII 1050-1, p. 13 (Exhibit US-110).

³⁴² NPD 1050.1H, p. 1(b) (Exhibit US-108). Non-reimbursable Space Act Agreements may also be titled “Memorandum of Agreement” or “Memorandum of Understanding.”

³⁴³ NPD 1050.1H (Exhibit US-110).

³⁴⁴ ECFWS, para. 892 and n.1582.

³⁴⁵ NPD 1050.H1, p. 1(b) (Exhibit US-108). Boeing provides in-kind remuneration under the non-reimbursable Space Act Agreements cited by the EC, as demonstrated in Section C.3.b.

³⁴⁶ One example is SAA3-642, an agreement under which NASA tests its sensor technology in a Boeing

Agreements are most accurately classified as mechanisms for the government purchase of services in exchange for in-kind remuneration. As discussed above, the purchase of services is outside the scope of the SCM Agreement. However, even if these non-reimbursable Space Act Agreements are treated as traditional government provisions of goods and services under Article 1.1(a)(1)(iii), they are demonstrably provided for adequate remuneration.

236. The remainder of this section addresses first the EC’s specific claims with respect to the provision of wind tunnel facilities, and then the rest of its general allegations about the provision of “government-owned property”, “institutional support” and “dedicated federal scientists, engineers, and research facilities.” In each case, what NASA provides to Boeing is limited, and the legal obligations with respect to Space Act Agreements mandate and ensure that NASA receives adequate remuneration from Boeing.

2. NASA provides limited wind tunnel services to Boeing for adequate remuneration.

a. The financial contribution to Boeing from NASA’s provision of wind tunnels is limited to Boeing’s actual use of the facilities.

237. Although the \$3.3 billion in “institutional support” that the EC challenges includes an allocated portion of NASA’s full cost of building and constructing its wind tunnels, this activity is a financial contribution relevant to this proceeding only to the extent those facilities are provided to Boeing. Some of the Space Act Agreements entered into under the challenged programs were concluded many years ago; however, the United States has provided 16 wind tunnel agreements that were reasonably available as examples of the limited scope of work and adequate remuneration under these Agreements.

238. One example relates to Boeing’s use of the NASA Langley National Transonic Facility (NTF) for 787 testing, which the EC characterizes as evaluation of the “high-lift system design” for the 787, which will help Boeing engineers improve the efficiency of the 787’s wings.”³⁴⁷ This testing is done under Annex 19 to Space Act Agreement 1-588, and is intended specifically to gather data on various landing configurations and the effects of ice on those configurations. It anticipates that the data will also be used to validate data gathered from other tunnels, other semi-span models, and ice attachment techniques.³⁴⁸ Under this reimbursable Space Act Agreement, Boeing provided a 787 semi-span model and the necessary model hardware and

³⁴⁶(...continued)

fire-suppression facility in exchange for sharing the resulting test data with Boeing. Space Act Agreement SAA3-642 (Exhibit US-138). Another example is SAA2-B0001.3, an agreement under which NASA provided a royalty-free license to its HiMap software tools in exchange for having Boeing run computations with it and provide feedback to enhance and validate the tools. (Exhibit EC-381).

³⁴⁷ ECFWS, para. 484.

³⁴⁸ The particular agreement is Annex 19 to the SAA1-588. Space Act Agreement SAA1-588, Annex 19 (Exhibit US-112). The primary Space Act Agreement, SAA1-588, is provided at Exhibit US-113.

assembly drawing, stress reports, and documentation to assemble the model, as well as on-site engineering and testing support. NASA ran the agreed testing and provided Boeing with an electronic copy of the data generated from the test. Additionally, Boeing retained exclusive rights in the generated data that disclosed its proprietary information (i.e., data pertaining to the 787 model). NASA calculated its full costs for 14.5 days of test section occupancy and 5759 tons of liquid nitrogen – including contracted services, electrical power, cooling water, high pressure air, facility maintenance, miscellaneous expendables, and facility expenditures to support testing and maintain current test capability (e.g., equipment and instrumentation repaid/replacements/calibrations) and General and Administrative Fees – at [***]. As discussed further in the following section, Boeing paid that full amount prior to NASA undertaking the test.

239. Because the EC focuses on the 787 in its submission, the United States also believes it is important to put NASA facilities usage relating to 787 development in context. Of the [***] wind tunnel testing hours done to date on the 787, only [***] of those – [***] percent – have been in NASA facilities. The rest is done in Boeing’s own facilities, in other commercial facilities, and in government facilities of EU Member states.

240. A table attached at Exhibit US-74 summarizes the terms and conditions of this and other wind tunnel testing done under the other 16 Space Act Agreements covering Boeing’s wind tunnel usage. All are similarly limited in scope, and all are for adequate remuneration.

b. NASA provides wind tunnels to Boeing in exchange for adequate remuneration.

241. As the discussion of SAA1-588 above demonstrates, Boeing pays adequate remuneration for its use of NASA wind tunnels. As with the EC’s discussion of contracts, its assertion that NASA receives “nothing of value” is not credible in light of the documents on which the EC rests its case and the U.S. law that governs the usage of NASA wind tunnel facilities.

242. Where Space Act Agreements are fully reimbursable, as in SAA1-588, described above, the adequacy of the remuneration is clear. Indeed, in the very press release that EC cited as evidence that Boeing is “using” the wind-tunnel, NASA referred to the transaction in the following terms: “The Boeing Company, Seattle, is one manufacturer *purchasing* wind tunnel time in the National Transonic Facility at NASA’s Langley Research Center, Hampton, Virginia, to test new aviation concepts, before applying them in flight.”³⁴⁹

243. There is not a direct equivalence between the NASA wind tunnels that Boeing has used

³⁴⁹ “Industry Uses NASA Wind Tunnels to Design New Airplanes,” NASA News Release 06-060, (Feb. 8, 2006) (emphasis added) (Exhibit EC-298).

and other commercial facilities.³⁵⁰ However, it is evident from NASA’s regulations and its own internal commercial benchmarking exercise that the full reimbursement rate it charges Boeing for its wind tunnels is actually above market. First, NASA treats “market-based pricing” as a form of partial reimbursement that may be accepted where a partner’s contribution provides an “adequate quid pro quo when compared to NASA’s contribution.”³⁵¹ In the full-reimbursement context, NASA’s charge covers all of the direct and indirect costs of occupancy time, energy/fuel usage, and data reduction.³⁵² As the U.S. Congress has confirmed, this full-cost charge, *i.e.*, charges based on the full cost of maintaining a wind tunnel rather than on the incremental cost of the specific work being done, is above-market: “Because of increased fees and because of the age and limitations of some of NASA’s facilities, U.S. companies are more frequently using foreign wind tunnels.”³⁵³ In short, U.S. consumers, including Boeing, consider that NASA charges too much for its wind tunnels, in light of other available testing facilities.

244. An independent study conducted by RAND Corporation similarly recognized that certain NASA wind tunnels were experiencing very low utilization rates “as a result of the superior (albeit foreign) alternatives in a prevailing acquisition approach encouraging contractors to select facilities based on cost and availability (regardless of country).”³⁵⁴ NASA Administrator Michael Griffin concurred: “We also need to price our assets such that program managers both within and outside NASA want to use those facilities. You know, pricing our assets such that Boeing goes to the Netherlands to do wind tunnel testing is really kind of stupid. In fact it’s not kind of stupid, it is stupid.”³⁵⁵

³⁵⁰ Article 14 of the SCM Agreement requires that adequate remuneration be “determined in relation to prevailing market conditions for the good or service in question in the country of provision or purchase (including price, quality, availability, marketability, transportation and other conditions of purchase or sale).” Wind tunnels have varying capabilities, and there are no commercial facilities in the United States with the same capabilities as the NASA facilities that Boeing uses.

³⁵¹ NAII 1050-1, p. 12 (Exhibit US-110).

³⁵² 14 C.F.R. § 1210.4(c) (“The fee imposed for a company project will cover all direct and indirect costs to NASA for the wind tunnel test.”) (Exhibit US-114). NASA requires full reimbursement where it receives no offsetting benefit in the form of data rights; it generates only one copy of the test data, and those results are the exclusive property of the payor. 14 C.F.R. § 1210.4(d) and (e).

³⁵³ Subcommittee on Space and Aeronautics, Committee on Science, U.S. House of Representatives, Hearing Charter, “The Future of Aeronautics at NASA,” (Mar. 16, 2005) (Exhibit US-115).

³⁵⁴ RAND, National Defense Institute, Wind Tunnel and Propulsion Test Facilities, Supporting Analyses to an Assessment of NASA’s Capabilities to Serve National Needs, pp. 41-42 (2004) (Exhibit US-116).

³⁵⁵ NASA Administrator Michael Griffin, quoted in Responses to Questions for the Record, submitted by Dr. Lee Stone, Legislative Representative NASA Council of IPFTE locals, for the House Subcommittee on Space & Aeronautics (August 7, 2006) (Exhibit US-117). In light of its own benchmarking exercise, NASA will lower its rates to reflect prevailing market conditions, (*i.e.*, “user charge{s} will be based on market prices”), particularly in light of the particular quality and characteristics of the existing NASA facilities. NASA Policy Directive 9080.1F, Review, Approval and Imposition of User Charges, October 14, 2004 (“9080”) (noting that “When the government, not acting in its capacity as sovereign, is leasing goods or resources or is providing a service, a user charge will be based on market prices.”) (Exhibit US-118). OMB Circular A-25, User Charges, at 6(a)(2)(b), *available at*

245. Where NASA accepts partial monetary reimbursement under a Space Act Agreement, it does so only where it has determined that “the reimbursement is fair compared to NASA's benefit.”³⁵⁶ For example, under Annex 1 to SAA2-401097 (a partially reimbursable SAA), Boeing ran wind tunnel tests in the NASA Ames Transonic Wind Tunnel in order to revalidate the tunnel after a modernization project.³⁵⁷ As the “purpose” section explains, Boeing conducted a wind tunnel test program for NASA, compared the results with results acquired prior to the modernization and evaluated the capabilities and data quality of the modernized facility. Boeing was charged the full fee of [***] per wind tunnel productive occupancy hour, for an anticipated [***] hours. The total estimated electrical energy cost for the test was [***], based on [***] per megawatt hour. However, “in exchange for NASA’s opportunity to develop processes and procedures for conducting semi-span tests in the facility during this test, NASA will provide a power offset up to, but not exceeding [***].” NASA explained further how it would benefit from Boeing’s test as an offset to the full electricity cost: “The information will benefit NASA by providing a direct comparison of the flow quality and data repeatability before and after the modernization and will provide NASA with a qualitative measure of the state of the facility and the opportunity to develop and to optimize test processes cooperatively. Frequent customers of the Transonic Wind Tunnel have, over time, been able to establish data increment which when applied to the wind tunnel test data will closely simulate flight test data.” This agreement reflects NASA’s judgment that the benefit it will receive from a particular wind tunnel test justifies acceptance of a lower fee in exchange for receipt of that benefit.

246. The EC also provides examples of three non-reimbursable Space Act Agreements pertaining to wind tunnel testing: SAA2-401097, SAA2-400262, and SAA2-401059. The United States examines each in order to show how it demonstrates the “quid pro quo” exchange under which NASA receives “fair and reasonable” compensation from the Agreement partner as compared to the resources NASA has committed.³⁵⁸

247. Under Annex 3 of SAA2-401097, Boeing used NASA’s Transonic Wind Tunnel facility to test a particular W34/B9 wind tunnel model with a particular configuration.³⁵⁹ In exchange for use of the NASA facility, Boeing provided the model, as well as test planning services, engineering support, auxiliary computing, steady-state and dynamic data in standard non-dimensional form, and detailed coordinates of the wind tunnel model. Additionally, Boeing gave NASA the right to use the data generated by the test. By entering into the SAA, NASA was able to gather the data necessary to calibrate, enhance and validate its own computer modeling codes

³⁵⁵(...continued)

www.whitehouse.gov/omb/circulars/a025/a025.html (Exhibit US-119).

³⁵⁶ Determinations to charge less than full cost reimbursement require adequate documentation, including articulating the legal authority or market basis for less than full cost recovery. NAII 1050-1 (Exhibit US-110).

³⁵⁷ SAA2-401-097 (Exhibit NASA-120).

³⁵⁸ NAII 1050, pp. 11-12 (Exhibit US-110).

³⁵⁹ Exhibit EC-615.

and the baseline characteristics of the 11 foot Transonic Wind Tunnel facility.

248. Under SAA 2-400262,³⁶⁰ Boeing used NASA’s Transonic Wind Tunnel facility to test models and data analysis systems. In exchange for use of the facility, Boeing provided the models and data analysis systems. Additionally, Boeing gave NASA access to the data established in this test and tests it had done in other facilities. By entering into this “bridge” SAA, NASA was able to start the testing necessary to re-establish data confidence after the modernization of its wind tunnel – a task necessary for its own work, as well as to be able to attract other customers to use its facility.

249. Under SAA2-401059,³⁶¹ Boeing used NASA’s wind tunnel facility to test a 1/8-scale hot gas propulsion simulator developed in the course of its “privately-financed HSCT {High Speed Commercial Transport} activities.” In exchange for use of the NASA facility, Boeing provided its proprietary simulator technology, ancillary hardware, model drawings and documentation, a second propane tank, set-up of the simulator and training of NASA personnel, and a geometric digital definition of the Reference H configuration. Additionally, Boeing gave NASA the right to use the data generated by the test. By entering into the SAA, NASA was thereby able to gather data using an invention that Boeing developed with its own internal funding in furtherance of one of its own objectives under the HSR program, namely, to determine the feasibility of suppressing the noise of a HSCT at low airspeeds.

250. Under Articles 1.1(b) and 14(d) of the SCM Agreement, a benefit is conferred by the provision of services only if the recipient pays less than adequate remuneration for the service provided. The EC has not met its burden. Indeed, as shown above, Boeing has in fact paid adequate remuneration, in cash or in kind, in all instances. Accordingly, no benefit is conferred under Article 1.1(b) and no subsidy is provided as a result of the provision of these facilities and accompanying services.

c. NASA’s provision of wind tunnel services is not specific under Article 2 of the SCM Agreement.

251. The United States also notes that the provision of wind tunnel facilities to Boeing is not specific. These facilities are available to all users on the same terms under 14 C.F.R. Part 1210. They are used proportionately by Boeing in light of its share of the U.S. aerospace industry, and used by a wide range of industries across the U.S. economic spectrum. In fact, NASA is working particularly hard to make its facilities user-friendly (and provide an “agile test environment”) to attract “the traditional Commercial and DOD ground testing community, General Aviation customers, Universities, as well as Non-traditional customers (automotive,

³⁶⁰ Exhibit EC-616.

³⁶¹ Exhibit EC-614.

submersible, recreational, etc).”³⁶²

3. NASA provides any additional goods and services to Boeing for adequate remuneration.

a. NASA makes only limited provision of non-wind tunnel goods and services to Boeing.

252. In addition to challenging Boeing’s use of NASA wind tunnels, the EC includes in its allegation NASA’s provision of “government-owned property”, “institutional support” and “dedicated federal scientists, engineers, and research facilities” to Boeing. As with wind tunnels, NASA only provides other goods and services under reimbursable and non-reimbursable Space Act Agreements. The former are used where it has services “not being fully utilized to accomplish mission needs, which it can make available to others on a noninterference basis, consistent with the Agency’s missions;”³⁶³ the latter are used where NASA engages with partners “in a mutually beneficial activity that furthers the Agency’s missions.”³⁶⁴

253. Again, the United States notes that although the EC has challenged \$3.3 billion in “institutional support,” which includes full direct and indirect labor costs, as well as other NASA overhead expenses, the financial contribution relevant in this case is limited to the provision of particular services to Boeing. As with the wind tunnel agreements, some of the SAAs entered into under the challenged programs were concluded many years ago; however, the United States has provided 19 Space Act Agreements for non-wind tunnel activities that were reasonably available as examples of the limited scope of work and adequate remuneration under these Agreements.

254. With respect to the reimbursable SAAs, the Agreements are clear that NASA is simply selling its goods and services to other entities and being fully remunerated (either in cash or in kind) for what it provides. For example, SAA2-401609 covers the evaluation of the continuous descent approach (CDA) noise abatement procedures developed by Boeing, under which NASA provided Boeing the use of its flight simulator and air traffic control simulators, appropriate personnel to support the testing and operation of the simulators and assistance in integrating Boeing-supplied software to measure noise and emissions with the NASA simulation system. NASA estimated the total cost of its services at [***]. As discussed in more detail below, Boeing reimbursed NASA for the costs associated with commercial pilots and air traffic controllers used in the study, and provided its technical expertise, data and codes in exchange for NASA’s services. NASA agreed to accept partial reimbursement in exchange for the services it provided, recognizing that the data developed in the course of the test could also enhance NASA databases related to noise abatement, and ultimately benefit all parties interested in researching

³⁶² See <http://windtunnels.larc.nasa.gov/enterprise.htm> (Exhibit US-121).

³⁶³ NPD 1050.1H, at 1(a) (Exhibit US-108).

³⁶⁴ NPD 1050.1H at 1(b) (Exhibit US-108).

solutions in support of NASA’s Global Civil Aviation objective to “confine objectionable noise within airport boundaries.”³⁶⁵

255. With respect to non-reimbursable SAAs, the EC highlights SAA1-507, pertaining to Blended Wing Body research, under which NASA estimated the cost of its contribution at [***] (a full cost calculation, including allocated indirect costs and overhead).³⁶⁶ But, according to the “estimated price report” cited by the EC, NASA offered its services in exchange for access to Boeing’s proprietary BWB model, codes, and its R&D support on the project.³⁶⁷ It did so because, in its words, this is “a basic research activity that is of high interest with LaRC {NASA Langley Research Center} and the Agency {NASA}.”³⁶⁸

256. In the case of both reimbursable and non-reimbursable SAAs, the services that NASA provides are limited in scope (and value), and NASA is adequately remunerated for what it provides.

b. *NASA’s provision of goods and services to Boeing is for adequate remuneration.*

257. Provision of services confers a benefit under Articles 1.1(b) and 14(d) only to the extent that the recipient pays less than adequate remuneration for the goods and services rendered. The remuneration that NASA requires, however, is either full price (which includes NASA’s full costs of providing the good or service), or an “adequate quid pro quo when compared to NASA’s contribution.”³⁶⁹ In either case, the remuneration is adequate.

258. The EC gives three supposed examples of Space Act Agreements between NASA and Boeing, each of which demonstrates well the nature and structure of these Agreements, and the adequacy of the remuneration paid under them. The first, the Quiet Test Demonstrator 2 (QTD-2) effort, is not a Space Act Agreement; it is a contract. The QTD was an industry group (involving the FAA, Boeing, GE, Goodrich, and All Nippon Airways), which works together to test noise-reduction technologies at a Boeing-owned facility (effectively, a field covered with microphones), using an ANA-owned aircraft. NASA’s involvement was not to provide goods and/or services under a Space Act Agreement; rather, it paid pursuant to a contract for a purchase of R&D services in order to acquire data to test some of its own work in propulsion aeroacoustics and computation fluid dynamics modeling.³⁷⁰ The funds paid to Boeing under the

³⁶⁵ SAA2-401-609, p. 2-3 (Exhibit NASA-122).

³⁶⁶ ECFWS, paras 643-646, and 650, n. 1071 and Exhibit EC-401.

³⁶⁷ Exhibit EC-401.

³⁶⁸ Exhibit EC-402.

³⁶⁹ NAI 1050-1, p. 12 (Exhibit US-110).

³⁷⁰ Boeing Press Release, “Boeing to Demonstrate Quiet Jets Can Be Even Quieter” (Aug. 9, 2005)

contract were included in the total payments made to Boeing under the QAT program, as set out in Section IV.B.1. Moreover, even though NASA did not pay for the full cost of the testing, the results of QTD2 were immediately presented to the QAT Technical Working Group, which, as noted above, consisted of representatives from airlines, airports, academia, airframe manufacturers, engine manufacturers, and aerospace suppliers, and were published in open-source literature within a year of testing. In fact, eight QTD-2 papers were also presented at the 2006 AIAA Aeroacoustics Conference, a conference at which Airbus and many other non-U.S. companies were active participants.³⁷¹

259. The second example is SAA2-B0001.3, which is a non-reimbursable Space Act Agreement under the HPCC Program.³⁷² NASA had developed HiMap computer software tools, and under this SAA it provided Boeing with a royalty-free license to use the generic software tools in order to evaluate their application to aeroelastic design procedures. In exchange, Boeing provided NASA feedback from its work that allows NASA to enhance the HiMap technology and generate “industry-relevant validation datasets” (something which NASA cannot do itself). In essence, Boeing served as a beta tester. In accordance with its regulations cited above, NASA received a quid pro quo from Boeing – feedback to enhance and validate NASA’s software tools, that was fair and reasonable in light of what NASA contributed to the effort (a royalty-free license to use the software).

260. The third and final example cited by the EC is the Blended Wing Body project, SAA-1-507.³⁷³ As NASA explains, “{t}his is a basic research activity that is of high interest with LaRC {NASA Langley Research Center} and the Agency {NASA}.”³⁷⁴ Under the Agreement, NASA provided goods and services, including (1) fabricating models based on Boeing designs, (2) integrating avionics, and (3) conducting simulations, goods and services that it valued at \$32 million in an “estimated price report” cited by the EC.³⁷⁵ That report reflects the fact that NASA undertakes a valuation of its work in order to ensure that it is receiving an adequate quid pro quo contribution under SAAs. Indeed, in this situation, NASA received Boeing’s proprietary “outer mold lines” of a 450-passenger configuration Blended Wing Body model (i.e., a McDonnell

³⁷⁰(...continued)

(Exhibit US-123). NASA paid Boeing approximately \$2.4 million under contract NAS1 97040 for this effort.

³⁷¹ Defining the Way Forward: AIAA/AAAF Aircraft Noise and Emissions Reduction Symposium, May 24-26, 2005, available at <http://www.aiaa.org/content.cfm?pageid=230&lumeetingid=1268> (Exhibit US-24). Airbus was a presenter, with Rolls Royce, at a session entitled Acoustic Liner Implementation Issues.

³⁷² ECFWS, para 588, n. 958 and Exhibit EC-381. Although the EC allocates an enormous percentage of the HPCC CAS budget to Boeing, the United States notes that Boeing’s participation in the HPCC program did not go much beyond this particular Space Act Agreement.

³⁷³ ECFWS, paras. 643-646, and 650, n. 1071 and Exhibit EC-401.

³⁷⁴ Exhibit EC-402.

³⁷⁵ Exhibit EC-401. As explained above, NASA’s calculation of its costs includes the total direct and indirect costs of the services provided. A commercial benchmark is not available.

Douglas-developed airframe design³⁷⁶), vehicle simulation source codes, static and dynamic check cases and a set of research flight control block diagrams, distributed loads for structural analysis, on-site technical oversight/support, development and execution of a flight test plan, expert technical opinions concerning the selection of engine, flight control and flight termination systems.³⁷⁷ Thus, NASA's contribution is matched by a "fair and reasonable" contribution by Boeing. The "benefit to the US aerospace industry" that NASA anticipates from this effort does even not enter into the calculation of whether the in-kind services provided by Boeing provided constitutes adequate remuneration for NASA's services.³⁷⁸

261. These examples, all highlighted by the EC in its submission, contradict the EC allegation that NASA receives "nothing of value" in return for the goods and services it provides. They also demonstrate NASA's own evaluation that the remuneration it received was "fair and reasonable compared to the NASA resources to be committed, NASA program risks, and corresponding benefit to NASA"³⁷⁹ – i.e, that it was adequate. The EC has provided no evidence to suggest otherwise. Accordingly, NASA provision goods and services to the U.S. large civil aircraft industry do not constitute a subsidy under Article 1 of the SCM agreement.

D. "Institutional Support" Costs Are Incurred by NASA, for NASA; They are Not a Financial Contribution and Do Not Confer a Benefit to Boeing.

262. The United States has fully demonstrated that when NASA provides goods and services to Boeing, it does so under Space Act Agreements, and it is adequately remunerated for what it provides.³⁸⁰ However, by (mis)-allocating the total NASA budget for Research and Program Management, Cost of Facilities and Research Operations Support (after FY 2004, included in the budget for each challenged program), and alleging that NASA provides facilities, equipment, and employees to Boeing only "*in part*, through its Space Act Agreements"³⁸¹ the EC actually appears to challenge funds that are not spent for the provision of goods or services to Boeing.

³⁷⁶ As noted above, BCA does not consider that there is a commercial application for a blended wing body configuration.

³⁷⁷ Exhibit EC-401.

³⁷⁸ The "benefit to US aerospace industry" in this case is actually a military application. "Boeing Phantom Works to Lead Research on X-48B Blended Wing Body Concept" (May 4, 2006) (Exhibit US-125) (explaining that the BWB research is a partnership between Boeing, NASA and the Air Force Research Laboratory, and the prototype aircraft were actually built under subcontract by a UK company, Cranfield Aerospace). BCA has been very clear that it sees no potential for a BWB commercial aircraft, and is not participating in this work effort. Randy's Journal (Nov. 2006), available at http://boeingblogs.com/randy/archives/2006/11/air_mail.html (Exhibit US-380) (explaining that BCA is not planning a BWB aircraft configuration, and is not involved in the work being done by Boeing Phantom Works, NASA, and Air Force to study military applications of the technology).

³⁷⁹ NPD 1050.1H, at 1(b) (Exhibit US-108).

³⁸⁰ NASA calculates the amount of remuneration that it considers adequate by reference to the "full cost", including its direct and indirect costs of what it provides.

³⁸¹ ECFWS, para. 892 (emphasis added).

263. To the extent that the EC intends to capture elements of the NASA budget that cover the Agency's own costs, it is radically broadening the notion of what constitutes a financial contribution in a way that is precluded by the text of the SCM Agreement. The ordinary meaning of "provide" is "supply or furnish for use."³⁸² Thus, the definition requires that for a provision of goods or services to occur, the government must actually supply these things to a recipient. The costs that NASA incurs to buy property, hire, pay and support personnel, and build and maintain facilities for government purposes do not constitute a provision of goods and services to the U.S. large civil aircraft industry under Article 1.1(a)(1)(iii) of the SCM Agreement.

264. First, with respect to "government-owned property", the United States has already demonstrated that where NASA provides its property (e.g., facilities, computer models) to Boeing under the challenged programs, it does so in the context of Boeing's performance of contract services or Boeing's receipt of NASA goods and services under Space Act Agreements. In both cases there is adequate remuneration. The EC has not demonstrated any other situations in which "government-owned property" has been provided to Boeing.

265. With respect to the "institutional support" element of the EC allegation, nothing is provided to Boeing when NASA's scientists and engineers do what they do every day, such as turn on the lights in their offices, call NASA's support when their computers crash, travel to international conferences, go to the doctor using their federal health insurance and collect pensions when they retire, or any of the other activities they perform in furtherance of NASA's objectives.

266. Finally, the United States has already addressed the limited situations in which NASA provides the services of its scientists and engineers to Boeing pursuant Space Act Agreements under the challenged programs. In all other situations, including where they supervise the work that Boeing is doing pursuant to contracts with NASA, these NASA scientists and engineers are doing NASA's work. As the EC quotes in its own submission, the NASA employees who work on the aeronautics R&D programs "plan the programs; conduct and oversee the research; . . . manage the various research, development and test activities, and oversee all of NASA's operations."³⁸³ That is not a service provided to Boeing. Rather, it is a service to NASA and the U.S. Government and, as such, does not constitute a financial contribution to, nor confer a benefit on, the U.S. large civil aircraft industry.

³⁸² New Shorter Oxford English Dictionary, p. 2393, p. 2382 (Exhibit US-14). The definition is reinforced by the metric of benefit prescribed under SCM Agreement Article 14 – a good or service must actually be rendered to a recipient before one can determine whether adequate remuneration is paid for it.

³⁸³ ECFWS, para. 500, quoting NASA R&PM budgets. The very first page of Exhibit EC-316 makes clear that the "institutional support" budget the EC challenges covers "(1) the civil service staff needed to perform in-house research, technology and test activities and to plan, manage and support the Research and Development Programs; (2) and the other elements of operational capability of the laboratories and facilities such as utilities; logistics including travel and transportation, maintenance and operation of facilities; and technical and administrative support."

267. In short, the EC has not demonstrated, as either a legal or factual matter, that NASA's own expenditures for its own government purposes, constitute a financial contribution under Article 1.1(a)(1)(iii) of the SCM Agreement.

* * * * *

268. The EC has essentially challenged the entire NASA aeronautics R&D program as being directed to benefit Boeing. The United States has demonstrated that the actual transactions between NASA and Boeing are limited, and in all events are not subsidies as the term is defined in the SCM Agreement. The United States has demonstrated that NASA has paid Boeing less than \$750 million over 30 years under the challenged programs, and it has done so as remuneration for the purchase of services. As such, the less than \$750 million is not a financial contribution to Boeing. The United States has also demonstrated that NASA has provided limited goods and services to Boeing pursuant to a discrete set of Space Act Agreements, and in each case has received adequate remuneration. As such, the value of the goods and services provided is not a subsidy to Boeing.

269. As for the additional billions of dollars of the NASA budget that the EC includes in its allegation of subsidies to Boeing, these are payments to entities other than Boeing, which are not contributions to Boeing that have benefitted Boeing. The Panel should reject any suggestion otherwise because, as we have shown, the argument has no support either in the factual record or the WTO Agreement.

V. INDEPENDENT RESEARCH AND DEVELOPMENT (“IR&D”) AND BID AND PROPOSAL (“B&P”) REIMBURSEMENTS UNDER DoD AND NASA CONTRACTS DO NOT CONFER A SUBSIDY.

A. IR&D and B&P are Factors Used to Determine the Price That a U.S. Government Agency Pays for Certain Acquisitions of Goods and Services.

270. IR&D and B&P are not distinct payments, but rather are one of a number of elements used in the calculation of how much the U.S. government pays for goods and services. They are not “grants” but instead form part of the remuneration that the U.S. government pays to obtain goods and services through contracts. Reimbursements of IR&D and B&P expenditures on U.S. government contracts is consistent with commercial practice, so they do not confer a benefit. *As they are available to any company* that contracts with the U.S. government, they are not specific within the meaning of Article 2. Because IR&D and B&P costs are part of the purchase price of a good or service, they are not even a separate financial contribution. In short, IR&D and B&P reimbursements have none of the attributes of a subsidy.

271. It is axiomatic that commercial businesses exist to make a profit, and that they can do so only if their revenue exceeds their costs. For example, if a commercial business has to spend \$70 million for raw materials, \$30 million for labor, and \$10 million to pay its salesmen and administrators, it must get at least \$110 million in revenue to break even.³⁸⁴ Expenses associated with selling and administrative expenses are often characterized as “overheads” or “indirect expenses,” because they do not relate directly to any particular contract or product and instead relate to company-wide expenses. If the company has more revenue than total costs, it makes a profit:

Revenue	120
– Raw materials	-70
– Labor	-30
– Overhead (selling and administrative)	-10
Total cost	<u>-110</u>
Profit	10

In order to cover costs, profit-making companies must allocate some portion of overhead expenditures to their customers. By necessity, these costs must be passed along as part of the purchase price of the good or service. This is the case whether the item sold is a bomber or a

³⁸⁴ Direct costs, such as raw materials and labor, can usually be identified with a particular product or service, and therefore passed along to the purchaser of each item.

pencil sharpener. Some portion of allocated overhead always forms part of the final price.

272. Where a company has more than one product, proper cost accounting techniques require that indirect expenses be proportionately allocated to the company's particular products. So, if the company above had two products, its total costs might look like:

	Product A	Product B	Total
Revenue	85	35	120
– Raw materials	-50	-20	-70
– Labor	-20	-10	-30
– Overhead (selling and administrative)	-7	-3	-10
Total cost	<u>-77</u>	<u>-33</u>	<u>-110</u>
Profit	8	2	10

273. Company-wide expenses typically included in overhead include the cost of running the office employee benefits and company infrastructure. Companies also generally account for R&D within indirect costs. In fact, both Boeing and EADS, Airbus's corporate parent, pass R&D costs along to their customers as part of their price of goods.³⁸⁵

274. These basic principles are no different when the U.S. government purchases goods and services. Where possible, agencies will buy goods under a "fixed price contract," which sets the price at the outset, ideally based on the prevailing market price. In that ideal case, the market price will cover the supplier's indirect costs, including any independent R&D the supplier conducts.

275. However, this is not always possible. To deal with this situation, the U.S. government has developed different types of contracts. For example, there are situations where there is no market price and there is uncertainty about the effort and cost involved with performance on the contract, such that using fixed-price contract would involve too much uncertainty. In such circumstances, the government may use a cost-reimbursement contract,³⁸⁶ paying the contractor for the costs it actually incurs rather than trying to guess a proper figure in advance. An example of this is when DoD buys military research services.

276. Another type of contract may be used in a situation in which there is no market price, but

³⁸⁵ The Boeing Company Annual Report, 2006, p. 41 (Exhibit US-126); EADS Annual Report 2006, Financial Statements and Corporate Governance, p. 31 (Exhibit US-127).

³⁸⁶ 48 C.F.R. § 16.301-2 (Exhibit US-128).

sufficient certainty about the effort and cost in performing the contract that a fixed price contract is possible. In that case, the lack of a market price may require the government to use cost-based principles to establish a fixed price for a military product or service, in what is known as a cost-based firm-fixed price (“FFP”) contract. However, once that firm fixed price is set, there is no “reimbursement” of IR&D, and the price stays the same even if the contractor subsequently changes its level of IR&D activity.

277. In any cost-based contract, the price is determined by adding together all direct and indirect costs that are allocable to the contract and which are reasonable. The regulations state that “{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.”³⁸⁷ These costs will include factors for direct inputs (e.g., materials and labor) and indirect costs. Two elements of indirect costs are IR&D and B&P.

278. B&P costs consist of:

the costs incurred in preparing, submitting, and supporting bids and proposals (whether or not solicited) on potential Government or non-Government contracts. The term does not include the costs of effort sponsored by a grant or cooperative agreement, or required in the performance of a contract.³⁸⁸

By way of example, B&P costs would include the costs of preparing a response to a government request for proposals (which may be extremely detailed), copying, submitting the documents, and responding to questions. Much in the same way as suppliers pass such costs along to commercial customers, government contractors may recover these costs when selling to the government. They are, in essence, costs associated with selling a service or item to the government.

279. IR&D is research that the contractor decides to conduct on its own initiative – that is what makes it “independent” R&D. The U.S. government’s general contracting regulations provide that:

Independent research and development (IR&D) means a contractor's IR&D cost that consists of projects falling within the four following areas: (1) basis research, (2) applied research, (3) development, and (4) systems and other concept formulation studies. The term does not include the costs of effort sponsored by a grant or required in the performance of a contract. IR&D effort shall not include technical effort expended in developing and

³⁸⁷ 48 C.F.R. § 31.201-3 (Exhibit US-129).

³⁸⁸ 48 C.F.R. § 31.205-18 (Exhibit EC-597).

preparing technical data specifically to support submitting a bid or proposal.³⁸⁹

Thus, while the types of research activities covered by IR&D are quite broad, there are important limitations. The activities in question must be truly independent. They cannot be required by performance of a contract. For DoD, the relevant regulations which incorporate the applicable law, provide the criteria by which IR&D may be reimbursed on “covered contracts.” The statute defines “covered contracts” as contracts for more than \$500,000, but does not include a fixed price contract without cost incentives or any firm fixed-price contract for the purchase of commercial items.³⁹⁰

280. Even if a cost meets the definition of IR&D or B&P, to qualify for reimbursement on a Government cost-based contract, it must not fall into any prohibited cost category (such as entertainment costs³⁹¹), it must be “allocable,” and it must be reasonable.”³⁹² With regard to allocability, the regulations state:

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.³⁹³

³⁸⁹ 48 C.F.R. § 31.205-18(a) (Exhibit EC-597).

³⁹⁰ 10 U.S.C. § 2372(b) and (1)(1)(A) (Exhibit EC-594). The EC asserts that DoD and NASA “go beyond the statutory requirement” and allow allocation of IR&D and B&P to all contracts, rather than only covered contracts. ECFWS, para. 864. The EC is actually confusing two different concepts – allowability of costs and reimbursement. The regulation that it cites, 48 C.F.R. § 31.205.18, deals with whether costs are “allowable,” that is, whether they may be used in calculating cost for government contracting purposes. Agencies do sometimes calculate costs for purposes other than determining reimbursement under a contract. For example, an agency contemplating a fixed price contract may calculate the costs of the offered good or service for benchmarking purposes, to make sure that the offeror is not overcharging. However, after the contract is finalized, that benchmark cost would not be used to determine payments to the contractor. DoD reimbursement is controlled by 48 § C.F.R. 231.205-18 (Exhibit EC-598) implementing the requirements of 10 U.S.C. § 2372 (Exhibit EC-594), which sets out the criteria by which covered contracts are eligible for reimbursement of IR&D costs.

³⁹¹ 48 C.F.R. § 31.205-14 (Exhibit US-130).

³⁹² 48 C.F.R. § 31.205-18(c) (Exhibit EC-597).

³⁹³ 48 C.F.R. § 31.201-4. The regulations define “reasonable” cost in general as being one that “does not
(continued...)

281. Allocation has two implications. First, it means that the cost of IR&D may be allocated to a segment of a contractor's business only to the extent that it benefits that segment. Second, it means that if a portion of IR&D costs benefits only contracts that are not reimbursable by the U.S. government (for example, BCA commercial contracts) that portion must be allocated directly to those contracts, and will not be reimbursed by the U.S. government.

282. Most importantly, the specific reimbursement of IR&D and B&P costs only occurs on cost-based contracts. For example, the concept of IR&D and B&P costs is irrelevant in determining the price that the Government pays for commercial item contracts and for fixed price contracts awarded on the basis of adequate competition. Thus, even if a cost is eligible for treatment as IR&D or B&P, it may not be allocated to the contracts if it is unallowable, unreasonable, or unrelated to the contract. Even if it is allocated, it will be reimbursed only for the contractor's cost-based contracts.

B. The EC Has Not Met its Burden of Proof to Establish That the Inclusion of IR&D and B&P in the Cost Calculation for Cost-Based Contracts is a Grant.

283. As we have described, IR&D and B&P are elements of contract costs when a government agency procures goods and services on a cost basis in the regular course of business. These costs form part of the overall price of working with any commercial business. Likewise, they are included in the cost build-up that forms the basis of the price paid by the government on a cost-based contract. They are not paid separately. They are independently accumulated and allocated over the same basis as the contractor's general and administrative ("G&A") overhead expense. That expense, along with other overheads, is factored into every payment to the contractor. *Thus, as part of the purchase price of a good, they plainly fall within Article 1.1(a)(1)(iii) as government purchase of a good.* To the extent that they are subsumed in the purchase price for a service, they are not a financial contribution at all.

284. The EC concedes most of the relevant facts, but then, without any analysis or explanation, asserts that "{t}hese transfers constitute financial contributions within the meaning of Article 1.1(a)(1)(i) of the SCM Agreement." This would be correct only if "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)." This is plainly not the case with IR&D and B&P, which are part of the purchase price a U.S. government agency pays for goods or services. The EC's failure to address the relevant facts means that the EC has not addressed the correct "financial contribution" in its subsequent analysis and, accordingly, has failed to meet its burden of proof.

³⁹³(...continued)

exceed that which would be incurred by a prudent person in the conduct of competitive business." 48 C.F.R. § 31.201-3(a) (Exhibit US-129).

C. The Inclusion of IR&D and B&P in the Cost Calculation for Cost-Based Contracts Does Not Confer a Benefit.

285. IR&D and B&P costs reimbursed under cost-type contracts represent each contractor's proportionate share of IR&D and B&P activity. In the case of IR&D, U.S. government contracting regulations (48 C.F.R. § 231.205-18) require that the total allowable IR&D not exceed that which is of potential interest to DoD. The inclusion of IR&D expenses reflects the important role that a contractor's independent R&D efforts, in addition to the R&D directly purchased by DoD in its RDT&E contracts, play both in helping the contractor to devise new and innovative products for DoD and in enhancing competition among major defense contractors. They are a cost incurred by companies in private business, too, and recognized as a cost element covered by revenue from sales. The inclusion of B&P reflects the reality that contractors incur significant costs in complying with the many obligations DoD imposes on them for bids to supply products and services to the government. Thus, both of these categories represent a cost of doing business with the government. In short, they represent part of an adequate remuneration for what a contractor like Boeing supplies to its government customer under a cost-based contract.

286. It is not necessary to look any further than Boeing and Airbus to establish that the funding of independent R&D out of customer revenue is consistent with prevailing market conditions. As noted above, both BCA and Airbus treat R&D expenses as a reduction to the revenue they receive from commercial customers. Therefore, that Boeing receives the same from its government customers is not a benefit within the meaning of Article 1.1(b).

287. A counterfactual example demonstrates why the IR&D and B&P allowances are important and appropriate. Suppose DoD stopped including those expenses in its cost build-ups. That would not cause the expenses to go away. Contractors would still have to pay for preparation of bids and proposals to bid successfully for government work, and to conduct their own R&D to remain competitive. (This is especially true if the contractor hopes to sell high-tech weapons systems like those that Boeing's IDS unit supplies to the Armed Forces.) The contractors' profit margin on previously profitable sales would accordingly fall or turn negative, leaving a contractor three choices: (1) to insist on a higher profit margin to cover the cost, (2) to stop bidding on government contracts altogether, or (3) to accept a lower profit margin. The first choice leaves DoD in essentially the same position as it is now, as it would still cover the cost of IR&D and B&P, but just in the form of higher profit rather than a cost allowance. The second choice would harm DoD, as it would decrease the competition that controls prices and spurs technological development. The third choice is not sustainable in the long run, as perennially low profits on DoD work would lead contractors to focus their efforts on other areas.

288. In short, IR&D and B&P cost reimbursements: (1) cover expenses that private companies not doing business with the government include in their prices for goods and services; and (2) cover real (and necessary) expenses that U.S. government contractors incur in doing business with the government. Therefore, they are part of an adequate remuneration for goods and services purchased by the government, and there is no basis to conclude that they confer a

subsidy.

D. The EC Has Not Met Its Burden of Proof to Demonstrate that Inclusion of IR&D in the Calculation for Boeing's Cost-Based Contracts Conferred a Benefit to Boeing Large Civil Aircraft.

289. The EC makes only the most cursory attempt to address whether payments under U.S. government rules regarding IR&D in general, or to Boeing in particular, are on terms more favorable than available on the market. It simply asserts that Boeing received \$3.1 billion in IR&D and B&P during the 1991-2006 period.³⁹⁴ (IR&D accounts for \$2.0 billion and B&P 1.1 billion of this estimate.) The EC then states that the allowances are grants (which, as we have shown, is incorrect) representing “‘free’ money” that is “not available on the market” (which is again incorrect).³⁹⁵

290. An evaluation of the reasoning underlying the EC's estimate of IR&D/B&P benefits to BCA illuminates the flaws in the EC's analysis. The EC derived that figure by estimating total IR&D/B&P included in DoD cost-based contracts with Boeing, and then attributing a share of the total amount to large civil aircraft based on the ratio of large civil aircraft revenue to total revenue. The EC explains this treatment by simply asserting “IR&D/B&P amounts reimbursed to Boeing related to the company as a whole.”³⁹⁶ The underlying premise of this calculation is that all of Boeing's IR&D and B&P costs are for research that is dual use with regard to civil aeronautics.

291. The EC attempts to justify this approach by claiming that certain research projects that Boeing's defense division conducted with company money were “dual-use technologies . . . for which Boeing likely received reimbursement in whole or in part through the US Government's IR&D/B&P Program.”³⁹⁷ The only support for this assertion comes from the EC consultants' statements that the R&D projects in question are “eligible for reimbursement,” that “many have dual-use applications” and that in certain areas “Boeing has conducted potentially-reimbursable IR&D that is directly beneficial to Boeing's LCA operations.”³⁹⁸ These assertions betray a fundamental lack of understanding about the operation of U.S. government contracting rules and the large civil aircraft industry.

292. In the first place, the statements that certain projects were “potentially” reimbursable as IR&D do not support the EC's contention that they actually were included in the Boeing defense division's IR&D allowance. Nor does it mean that *all* DoD research had a potential use in large

³⁹⁴ ECFWS, para. 876.

³⁹⁵ ECFWS, para. 880.

³⁹⁶ NASA/DoD IR&D/B&P Subsidies to Boeing LCA Division, n. 2 (Exhibit EC-24).

³⁹⁷ ECFWS, para. 872.

³⁹⁸ CRA IR&D/B&P Document, p. 60 (Exhibit EC-5).

civil aircraft, which is the assumption underlying the EC’s calculation of the value of IR&D to large civil aircraft. In fact, as we showed earlier in Part III, Section A.3, many of the areas of DoD interest have nothing to do with large civil aircraft – such as space launch, satellites, unmanned air vehicles, guns, and aerial assault. The EC recognizes this in its analysis of DoD and NASA R&D, which concedes that purely military and purely space activities confer no benefit.

293. More to the point, the EC consultants’ evaluation of what is “potentially-reimbursable” ignores key criteria for treatment as IR&D. The regulations are clear that IR&D “does not include the costs of effort . . . required in the performance of a contract.”³⁹⁹ The large majority of the research required for producing a large civil aircraft occurs after the launch of the aircraft, which occurs only after the producer has signed a sale contract with its launch customer or customers. Because this research is significant and done in performance of a contract, it would not be eligible for treatment as IR&D.

294. The EC also fails to realize that even if research is properly characterized as IR&D, it will not be eligible for U.S. government reimbursement unless it is passed along to the government as part of a cost-based contract. Under the Cost Accounting Standards, IR&D expenses are allocated among business segments based on the beneficial or causal relationship between the IR&D cost and those segments.⁴⁰⁰ If a cost has a beneficial relationship to multiple business segments, it will be allocated proportionately to all.

295. This principle has several implications. If IDS conducted research applicable only to civil aircraft, Boeing would not be allowed to allocate the cost to IDS’s government contracts, as IDS only performs military and space business for the government. Boeing would instead be required to allocate the entire cost of the R&D to BCA. Because BCA has no cost-based contracts with the government, these costs would be passed along to BCA’s commercial customers, and not be subject to reimbursement by the government.

296. Second, if a military IR&D project was “directly beneficial to Boeing’s LCA operations,” as the EC mistakenly contends,⁴⁰¹ Boeing would be required to allocate that cost to IDS and BCA “on the basis of the beneficial or causal relationship between the IR&D and B&P costs and the final cost objectives.” Thus, the portion of that IR&D project related to BCA would not be allocated to IDS, and would not be subject to reimbursement in an IDS cost-based contract. The portion allocated to BCA could not be included in a cost-based contract because BCA has no such contracts. Instead, that portion of the cost would be passed along to commercial customers through BCA’s overhead. Thus, “dual-use research” included in IR&D costs will be reimbursed only to the extent of the military benefit of the research.

³⁹⁹ 48 C.F.R. § 31.205-18 (Exhibit EC-597).

⁴⁰⁰ 48 C.F.R. § 9904.420-40(e) (Exhibit US-131).

⁴⁰¹ CRA IR&D Document, p. 60 (Exhibit EC-5).

297. The U.S. government procurement regulations do not permit the reimbursement of civil technology IR&D on military contracts. In fact, Boeing informs us that it maintains a separate cost account for “common enterprise IR&D,” which consists of costs for R&D undertaken that has company-wide applications. In accordance with DoD regulations, Boeing allocates those expenses to its various segments on “the basis of the beneficial or causal relationship” between the costs and the segments involved.⁴⁰² (Boeing informs us that it uses the relative value added by each segment to allocate common enterprise IR&D.) Such dual use R&D is actually a fairly small number each year in relation to the company’s total R&D costs.

298. Finally, the EC argument ignores the competitive discipline on IR&D. Boeing and its competitors all include IR&D within their indirect cost rates, specifically, as part of their G&A rates. When a contractor bids to perform a particular job, it proposes the expenses it expects to incur, and its established G&A rate (including IR&D) is added to that amount. If Boeing’s IR&D expenses are out of line with other contractors, its bids will become uncompetitive, and it will lose contracts. Since Boeing’s major competitors do not have large civil aircraft businesses, if Boeing were really including civil research among its IR&D expenses, one of two things would happen: (1) the IR&D element of IDS’s G&A rate would be higher than competitors that do not have sizable civil businesses, and it would lose business or (2) it would have to spend less on military IR&D to keep its G&A rate competitive with other contractors. In this last case, other contractors would spend more than Boeing on IR&D, and would be likely to develop more technologies to market to DoD, a development that would also cause Boeing to become less competitive on military sales.

E. The EC Has Not Met its Burden of Proof That the Inclusion of B&P Costs in the Calculation for Cost-Based Contracts Conferred a Benefit to Boeing Large Civil Aircraft.

299. Although the EC recognizes that B&P expenses are defined differently from IR&D, it provides no separate analysis of B&P expenses. Its consultants merely assert that

While the U.S. Government treats B&P expenses as a separate category, they are frequently considered and accounted for as part of general R&D expenses. For example, Stickney et al. include “preparing bids for potential contracts” in their list of reasons for firms incurring R&D costs.⁴⁰³

The consultants’ analysis thereafter addresses IR&D exclusively, although they do estimate separate values for IR&D and B&P. The analysis of the financial contribution, benefit, and specificity in the EC submission, however, does not even differentiate between the two. The EC treats IR&D and B&P as if they were the same thing, and that a conclusion on financial

⁴⁰² 48 C.F.R. § 9904.420-40 (a) and (3) (Exhibit US-131).

⁴⁰³ CRA IR&D Document, p. 11 (citations omitted) (Exhibit EC-5).

contribution, benefit, or specificity on IR&D applies equally to B&P.

300. This is not the case. IR&D and B&P address different costs, undertaken for different reasons. IR&D is available only for research, and then only if the research is not required in the performance of a particular contract. B&P, on the other hand, consists exclusively of “costs incurred in preparing, submitting, and supporting bids and proposals (whether or not solicited) on potential Government or non-Government contracts.” The predominant activity covered by B&P costs is the drafting of the texts of bids and proposals, which can be many thousands of pages long. A bidder *may* engage in a limited amount of research in preparing technical specifications, but this activity is greatly outweighed by the ministerial and commercial functions of describing the activities that the contractor proposes to undertake and setting a price to them.

301. Boeing, in particular, treats the following activities as B&P:

- developing and refining a specific business opportunity plan or approach;
- engineering “white paper” studies
- preparation of a business or technical risk assessment plan
- conducting a competitor analysis
- developing a strategic approach or plan for acquisition; assisting customer preparation of a request for proposal
- customer briefings and contacts in relation to the statement of work or acquisition process status
- assessment of in-house technical capabilities and technology requirements
- technical studies, analyses and data preparation
- preparation of cost estimates and pricing data
- preparing technical and management work statements
- identification of suitable subcontractor capabilities
- actual assembly, delivery and presentation of the proposal
- responding to customer requests following proposal submittal
- fact finding and negotiation prior to contract award
- customer debriefings, loss analysis and lessons-learned documentation.⁴⁰⁴

302. The EC has presented *no* information to suggest that B&P activities convey any benefit

⁴⁰⁴ Ramey Affidavit (Exhibit US-132).

to Boeing's large civil aircraft at all. B&P forms part of the purchase price for activities and goods purchased by the U.S. government, and as such is part of the adequate remuneration conveyed to the contractor. Further, the EC has provided no evidence that there is *any benefit to BCA* from B&P reimbursements. Indeed, it is hard to see how assembly, delivery, and presentation of a proposal to DoD, for example, will give Boeing aircraft any sort of advantage, let alone one on terms more favorable than available in the market. In fact, in the activities covered by B&P, DoD gets what any commercial customer gets when it pays a price that covers the seller's selling expenses – the seller's provision of information necessary to evaluate the product and decide whether to make a purchase. In the case of DoD, a large part of that service is compliance with DoD's voluminous requirements for the submission of bids and proposals.

303. Therefore, the EC has not met its burden of proof regarding any benefit conferred on Boeing by DoD's inclusion of B&P the overall price in the calculation of costs for cost-based contracts.

F. The Inclusion of IR&D and B&P Costs in the Calculation for Cost-Based Contracts is Not Specific.

304. The IR&D and B&P regulations place no limitation on the industries or enterprises that may claim IR&D or B&P as an overhead cost allocable to cost-based contracts. The only requirements for specific reimbursement are that the company have a cost-based contract with a U.S. government agency, and that the company has in fact incurred expenses for research and development or bid and proposal activities that are not required in the performance of any other contract and that they are allocable, reasonable, and not otherwise unallowable.⁴⁰⁵ Therefore, IR&D and B&P allowances are not *de jure* specific pursuant to Article 2.1(a).

305. IR&D and B&P are also *de jure* non-specific within the meaning of Article 2.1(b). The criteria are objective, in that they are reimbursed based on the relative dollar value of the contract, the nature of the eligible activity (research and development or bid and proposal preparation), and the relationship of that activity to the activities to which it is allocated. The criteria are clearly spelled out in laws, regulations, and official directives. If a contractor meets the relevant criteria, it is automatically entitled to claim IR&D or B&P costs as overhead on cost-based contracts. As the judicial decision cited by the EC demonstrates, these criteria are rigorously enforced.

1. The EC has not met its burden of proof that the reimbursement of IR&D Costs under U.S. government cost-based contracts conferred a benefit to Boeing large civil aircraft.

306. The EC ignores these facts, arguing instead that IR&D allowances are available only to “the research-based defense and aerospace industries” because IR&D is available for basic

⁴⁰⁵ 10 U.S.C. §§ 2324(l)(1)(A) (Exhibit EC-606) and 2372(b) (Exhibit EC-594). The threshold is \$500,000, indexed periodically for inflation from 1994.

research, applied research, development, and systems and other concept formulation studies. There are several problems with this reasoning.⁴⁰⁶ First, IR&D is not restricted to defense and aerospace industries. 48 C.F.R. § 31.205-18, which provides for IR&D costs, is part of the general federal acquisition regulations, making IR&D available to all government contractors. Therefore, any contractor performing work on a U.S. government cost-based contract may seek and receive reimbursement for IR&D costs if it meets the criteria. Second, “research-based defense and aerospace industries” are not “an enterprise or industry or group of enterprises or industries” within the meaning of Article 2.1. Rather, research and development are simply activities in which any company in any industry may engage. Defense contractors as a group provide a broad array of goods and services – aircraft, ground vehicles, ocean-going vessels, electronics, computers, software, telecommunications, aircraft, missiles, missile defense, weapons, ammunition, construction, textiles, and metals, to name just a few. Defense contractors individually are also highly diversified. Boeing, for example, is known for supplying aircraft, but it also supplies information systems and battle management systems.⁴⁰⁷ Raytheon, another major contractor, supplies not only traditional military products like satellites, missiles, missile defense, and submarine defense systems, but also software, communications equipment, logistics, and information technology.⁴⁰⁸ Therefore, defense and aerospace contractors are not a discrete industry.

307. The research activities sponsored by DoD range just as broadly. Aircraft and aircraft systems are only one among a multitude of research objectives covered by the DoD budget, which also includes electronics, communications systems, missiles, missile defense, weapons, munitions, ships, space systems, ground transportation, and tires.⁴⁰⁹ With DoD having such numerous and varied areas of interest, the admonition that IR&D efforts be directed to areas “of potential interest to DoD” does not place a meaningful restriction on companies’ claims on IR&D costs on their cost-based contracts. Thus, the EC is mistaken to assert that “DoD explicitly limit{s} access to these payments to certain enterprises.”⁴¹⁰

308. Consideration of the *de facto* specificity factors does not change this conclusion. The EC asserts that “in practice, a wide range of government contractors, including foreign contractors, are not eligible to receive NASA or DoD IR&D/B&P reimbursements.”⁴¹¹ It derives this conclusion from a statement that “these contracting activities generally incur nominal or no IR&D and B&P costs,”⁴¹² which appears in the DCAA annual report on IR&D and B&P. The

⁴⁰⁶ ECFWS, para. 881.

⁴⁰⁷ Boeing Annual Report, p. 77 (2006) (Exhibit US-126).

⁴⁰⁸ Raytheon 10-K Report, pp. 3-5 (2006) (Exhibit US-133).

⁴⁰⁹ DoD RDT&E spending by acquisition category (Exhibit US-134).

⁴¹⁰ ECFWS, para. 885.

⁴¹¹ ECFWS, para. 886.

⁴¹² IR&D and B&P Costs Incurred by Major Defense Contractors, 2003 and 2004 (Exhibit EC-609),

EC misunderstands. This quotation clearly demonstrates that these contractors are in fact *eligible* for IR&D – otherwise, even “nominal” amounts would be impossible. The only fact that it evidences is that some classes of contractors do not have high enough IR&D claims to warrant tracking the inclusion of costs incurred by “major” defense contractors. As the quotation is the only evidence that the EC mistakenly cites of selective ineligibility, that aspect of its argument must fail.

309. The EC also asserts that Boeing has received a disproportionate share of IR&D and B&P, reimbursements estimating that the company accounted for 11.8 percent of total IR&D payments from 1991 to 2006, while the company accounted for 12.6 percent of total RDT&E contracting.⁴¹³ These figures appear to be proportionate to each other. Moreover, as we note above, this figure significantly exaggerates Boeing’s IR&D. The EC also attempts to bolster its specificity argument by asserting that “five top US aerospace companies – Boeing, Lockheed Martin, Northrop Grumman, Raytheon, and United Technologies – have received, on average, 45.2 percent of total RDT&E funding.”⁴¹⁴ Since the EC provides no information on these five companies’ IR&D expenditure, it is difficult to understand why the five-company share of RDT&E is relevant. (As we noted above, the RDT&E spending itself is not specific.) Thus, consideration of the “other factor” of proportionality does not indicate that B&P costs are specific.⁴¹⁵

2. *The EC has not met its burden of proof that reimbursement of B&P costs under U.S. government cost-based contracts conferred a benefit to Boeing large civil aircraft.*

310. The EC specificity argument with regard to B&P costs consists of two sentences, both of them wrong. In the lead-in to the specificity section, the EC asserts that “B&P costs are reimbursed only for those enterprises in the research-based defense and aerospace industries.”⁴¹⁶ This is incorrect. Reimbursement of B&P is not only available to all contractors with all U.S. federal agencies, it is also independent of whether a company conducts research. Thus, eligibility for B&P cost reimbursement is even broader than eligibility for IR&D reimbursement.

⁴¹²(...continued)
quoted in ECFWS, para. 886.

⁴¹³ ECFWS, para. 887.

⁴¹⁴ ECFWS, para. 888.

⁴¹⁵ Section III.C.4 provides a more detailed analysis of why a consideration of the EC’s disproportionality arguments do not detract from the appearance of *de jure* specificity resulting from the application of Article 2.1(a) and (b). Since the EC’s arguments regarding *de facto* specificity for IR&D and B&P rest on a comparison with RDT&E spending, the analysis in Section III.C.4 provides further support for the conclusion that IR&D and B&P are not specific.

⁴¹⁶ ECFWS, para. 881.

311. The EC’s second statement regarding B&P is that “‘major contractors’ are still explicitly limited to receiving IR&D/B&P reimbursements on certain projects, namely those that are ‘of potential interest to DOD.’”⁴¹⁷ In this case, the EC once again misreads the regulations. The IR&D and B&P provisions of 48 C.F.R. § 31.205-18 apply to all contracts, providing the criteria under which IR&D and B&P shall be reimbursed. There is no requirement that such costs have a potential interest to DoD. However, all DoD contracts are additionally subject to the DoD Federal Acquisition Rules Supplement, which at 48 C.F.R. § 231.205-18(c)(iii)(B) requires that such costs have a “potential interest” to DoD. B&P costs are by definition incurred in preparing a bid or proposal and when requested by DoD, they are by their very nature “of potential interest to DoD.” After all, the very fact that DoD has requested a bid or proposal indicates a potential interest. In any event, as with IR&D costs, DoD’s potential interests are so broad that they do not limit availability of B&P reimbursements to a specific enterprise or industry or group of enterprises or industries.

312. In its *de facto* specificity argument, the EC does not differentiate at all between IR&D and B&P. Therefore, its claims that B&P costs are *de facto* specific fail for the same reasons as its *de facto* specificity claim regarding IR&D. We incorporate that analysis by reference.

⁴¹⁷ ECFWS, para. 883.

VI. THE TREATMENT OF PATENT RIGHTS, DATA RIGHTS, AND TRADE SECRETS UNDER U.S. GOVERNMENT CONTRACTS DOES NOT CONFER A SUBSIDY.

313. The EC asserts that the U.S. government “transfers” or “waives” patent and data rights to its government contractors, and that this alleged transfer conveys a benefit specific to Boeing. It is wrong on all counts. Under U.S. law, an inventor is the initial holder of the rights to a patentable invention. This rule holds true whether the inventor conceives the patentable invention independently, under contract to a private partner, or under contract with the government. Thus, the question in a government contract is not whether the government will “transfer” or “waive” patent rights, but is instead what rights the government receives as part of the exchange of value under the contract, and what rights the inventor retains. Since the contracts themselves are subject to competitive bidding (or procurement rules designed to achieve a result equivalent to competitive bidding), the resulting allocation of patent rights is consistent with market considerations. Moreover, the ultimate assignment of patent rights that the EC attacks is, in fact, the general rule under U.S. government contracting law and, therefore, is not specific. As for data rights, the concept of “waiver” is not applicable. Data rights may be licensed, but the EC has not made any claims in this regard.

314. The EC devotes most of its analysis to selective quotations regarding the policy underlying U.S. rules for the attribution of rights in patents conceived by persons working under contracts with the government. The EC is correct that 30 years ago, the United States had a general policy of taking all rights to patents conceived under government contracts, and then granting nonexclusive licenses to any applicant that wished to use a patent. The EC is also right that 27 years ago, as a result of the Bayh-Dole Act, the United States changed its general policy to allow contractors to retain their patent rights, while the government would acquire only those patent rights it needed. The government rights take the form of a license to use the patent for any “government use,” which includes use of the patent by any government contractor engaged in government business. The key point is that it was a general policy, available to any contractor under any contract with any agency. In the parlance of the SCM Agreement, the patent rules are not specific.

315. The EC also misstates the purpose for the change in policy. As a document cited by the EC notes:

This free and open access policy to patents presented many problems for contractors. Envisioning commercial applications, inventors of new technology wanted to keep for themselves any economic benefits resulting from their research. Commercial companies depend heavily on the proper protection of their research to recoup any prior investments. The thought that the Government could distribute their research results to whomever might ask for them became extremely unattractive to many contractors, universities, and research centers. As a result,

technologies that were potentially commercially viable were never fully available to the Government.⁴¹⁸

To put it another way, contractors became reluctant to conduct research for the government because they saw the cost of the patent rights they gave up under government contracts as tilting the balance of the transaction too far in favor of the government. This left the government with the choice of either paying more, or changing the distribution of patent rights. It chose the latter course. However, the key point is that this was an economic, market-based choice driven by the willingness of private actors to do business with the government. There was accordingly no financial contribution or benefit within the meaning of the SCM Agreement.

316. The EC mixes together its analysis of patent rights, data rights, and trade secrets. However, this submission addresses each concept separately, as the legal regimes governing each is different.

A. The Retention of Patent Rights by Government Contractors is Not a Financial Contribution, Does Not Confer a Benefit, and is Not Specific.

1. *The patent rights assigned to private parties under contracts with DoD or NASA are not a contribution, financial or otherwise, because the private parties held those rights in the first place.*

317. The EC's allegation that DoD and NASA made a financial contribution by "transferring" or "waiving" of patent rights fails on several counts. At the most basic, it is the inventor that holds the patent right in the first place. The only possible transfer of rights as a result of the contract begins with the inventor and proceeds to the government,⁴¹⁹ and not *vice versa*. In addition, the EC is mistaken in asserting that the assignment of patent rights under a government contract is the provision of a good under Article 1.1(a)(1)(iii) or the foregoing of revenue under Article 1.1(a)(1)(ii).

318. Under U.S. law, a person is entitled to a patent only if that person himself or herself invented the subject matter sought to be patented.⁴²⁰ Although an inventor may assign patent rights to legal persons, such as corporations or government entities, those legal persons are not entitled to name themselves as inventors or patentees under U.S. law. When two companies (or a company and the government) enter into a contract, there is always the possibility that the employees of one of them will conceive an invention while working on the contract. Absent

⁴¹⁸ Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, *Intellectual Property: Navigating Through Commercial Waters*, p. E-1 (Exhibit EC-557).

⁴¹⁹ It is not unusual for the inventor to convey title to the inventor's employer, who is then the party that actually conveys title to the government.

⁴²⁰ 35 U.S.C. § 102(f) (A person shall be entitled to a patent unless . . . he did not himself invent the subject matter sought to be patented.) (Exhibit US-135).

some specific provision of the contract to the contrary, any patent rights would remain with the inventor. (In practice, the inventor will typically agree to assign such rights to his employer as part of the terms of employment.)

319. Over the course of history, the United States government has made different provisions for the disposition of rights to patents on inventions made by government contractors. However, for more than 20 years – and for all of the period covered by the EC allegations – the rules have remained essentially unchanged. Under Chapter 18 of Title 37 of the U.S. Code (the “Bayh-Dole Act”), a university, other nonprofit organization, or small business is entitled to “retain title to any subject invention,” namely, “any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement.”⁴²¹ (“Funding agreement” includes any contract, grant, or cooperative agreement between the contractor and a government agency, including DoD and NASA.)

320. The Bayh-Dole Act also requires the agencies to include the following clauses in all of its funding agreements with universities, other nonprofit organizations, and small businesses:⁴²²

- a requirement that the contractor notify the government of each invention to which it intends to retain title and file a patent application within the time provided by statute, and an authorization for the government to receive title to the invention if the contractor fails to follow these procedures;⁴²³
- the provision to the government of a “nonexclusive, nontransferrable, irrevocable, paid-up license to have practiced for or on behalf of the United States any subject invention throughout the world.”;⁴²⁴ and
- an authorization for the government to file a patent application on behalf of the inventor anywhere that the contractor fails to do so.⁴²⁵

The government use license gives the government the right to use the patented invention free of charge, and to allow other contractors to use the patented invention in fulfilling any government contract.

⁴²¹ 37 U.S.C. §§ 201(c) and (e) and 202(a) (Exhibits US-136 and 137).

⁴²² An agency may deviate from the Bayh-Dole title retention requirements, but only if it makes a formal determination under 35 U.S.C. § 202(b)(1) of the existence of certain limited circumstances set out at 35 U.S.C. § 202(a) (Exhibit US-137).

⁴²³ 35 U.S.C. § 202(c)(1) and (3) (Exhibit US-137).

⁴²⁴ 35 U.S.C. § 202(c)(4) (Exhibit US-137).

⁴²⁵ 37 U.S.C. § 202(c)(3) (Exhibit US-137).

321. A Memorandum issued by the President in 1983 instructed all executive branch agencies to extend the Bayh-Dole treatment to all contractors to the extent permitted by law.⁴²⁶ (For simplicity's sake, the contractors to whom the Memorandum applied, namely those that are not universities, other nonprofit organizations, or small business, may be characterized as "medium and large businesses.") The policy was subsequently incorporated into Executive Order 12591 of April 10, 1987.⁴²⁷ To implement this policy, the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council adopted 48 C.F.R. § 27.303(a) and (b), which requires the use of the Bayh-Dole contract clauses (or their equivalent) even if the contractor is a medium or large business. In the case of DoD, this takes the form of standard clause 52.227-12 (Patent Rights – Retention by the Contractor (Long Form)), which DoD agencies must insert into all RDT&E contracts. Like contracts subject to the Bayh-Dole Act, clause 52.227-12:

- requires the contractor to notify the government of each invention to which it intends to retain title and to file a patent application within the time provided by statute, and authorizes the government to receive title to the invention if the contractor fails to follow these procedures;⁴²⁸
- provides to the government of a “nonexclusive, nontransferable, irrevocable, paid-up license to have practiced for or on behalf of the United States any subject invention throughout the world.”;⁴²⁹ and
- authorizes the government to file a patent application of behalf of the inventor anywhere that the contractor fails to do so.⁴³⁰

322. Use of clause 52.227-12 is not available to NASA. Under § 305(a) of the Space Act, the agency's authorizing statute, the United States itself takes title to the patent for any invention made by a medium or large business during performance of work under a NASA contract, unless NASA waives that right under § 305(f) of the Space Act. This provision would supersede the standard government contract clauses and intent of Executive Order 12591 if NASA simply inserted them into its contracts with medium and large businesses. Therefore, after the issuance the Presidential memorandum of February 18, 1983, and Executive Order 12591, NASA decided to achieve the substantive result called for in the memorandum by using its waiver authority to countermand its right to take title. It issued new regulations recommending that NASA waive its right to take title to inventions conceived by medium and large contractors in the same basic

⁴²⁶ Memorandum on Government Patent Policy (Feb. 18, 1983) (Exhibit EC-560).

⁴²⁷ Executive Order 12591 - Facilitating access to science and technology (Exhibit EC-561).

⁴²⁸ 48 § C.F.R. § 52.227-12(c)(1) and (2) and (d) (Exhibit US-138).

⁴²⁹ 48 C.F.R. § 52.227-12(b) (Exhibit US-138).

⁴³⁰ 48 C.F.R. § 52.227-12(d)(3) (Exhibit US-138).

situations in which the contractor retains title under the Bayh-Dole Act.⁴³¹ The NASA procurement regulations accordingly require the insertion of two clauses, 1852.227-70 (New technology) and 1852.227-71 (Requests for waiver of rights to inventions), into NASA contracts with medium and large contractors. These clauses and the waiver regulations:

- require the contractor to notify the government of each invention to which it intends to retain title and file a patent application within the time provided by statute, and authorize the government to receive title to the invention if the contractor fails to follow these procedures;⁴³²
- provide to the government a “nonexclusive, nontransferable, irrevocable, paid-up license to have practiced for or on behalf of the United States any subject invention throughout the world”,⁴³³ and
- authorize the government to file a patent application of behalf of the inventor anywhere that the contractor fails to do so.⁴³⁴

323. Under this regime, NASA has never rejected a waiver request by any company – not one – since 1985. Thus, NASA achieves through the waiver process the same substantive result achieved by the Bayh-Dole Act for universities, other non-profits, and small businesses, and achieved by clause 52.227-18 for DoD contracts with medium and large businesses.

324. Thus, the patent provisions of a DoD RDT&E contract do not constitute a financial contribution because the patent rights guaranteed to the contractor and its employees belonged to them in the first place. The contract provisions merely guarantee that they retain a portion of those rights, while the government takes the portion relevant to the government’s interest in the form of the government use license. The government “contributes” nothing within the meaning of Article 1.1(a)(1). The same holds true for the NASA patent clauses. By waiving the agency’s right to take title to patents made by contractors pursuant to a contract, NASA leaves the contractor with the rights that it otherwise would enjoy under general U.S. patent law. Like DoD, NASA “contributes” nothing within the meaning of Article 1.1(a)(1).

325. Thus, the EC’s argument that the government has foregone revenue because “entities making use of a government’s intellectual property rights would ordinarily need to pay license

⁴³¹ Compare 35 U.S.C. §§ 200 and 202(a) (Exhibit EC-558) with 14 C.F.R. § 1245.104(b) (Exhibit EC-572).

⁴³² 48 C.F.R. § 18522.227-70(e)(2). “Reportable item” is defined to include “invention, discovery, improvement, or innovation of the contractor, whether or not patentable . . . made in performance of any work under any NASA contract.” 48 C.F.R. § 18522.227-70(a) (Exhibit US-139).

⁴³³ 48 C.F.R. § 1852.227-70(c)(1)(i) (Exhibit US-139).

⁴³⁴ 14 C.F.R. § 1245.109 (Exhibit EC-572).

fees for such use”⁴³⁵ is beside the point. There cannot be a “provision” for purposes of Article 1.1(a)(1)(iii) when the government confirms the patent holder’s rights and provides nothing additional. And, as DoD and NASA merely allowed Boeing to retain the ownership of intellectual property rights to which it was entitled under general patent law, the agencies did not forego any revenue within the meaning of Article 1.1(a)(1)(ii).

2. *The retention of patent rights by a government contractor arises from a contract subject to an arm’s length negotiation between the government and the contractor and, accordingly, conveys no benefit.*

326. If the Panel were to conclude that there is a financial contribution, the treatment identified by the EC does not confer a benefit. As the EC recognizes, the assignment of patent rights that it alleges to be a subsidy arises out of contracts between the U.S. government and Boeing. It is not an autonomous act. The patent rights result because the patented invention was made in the performance of a research task identified in the terms of the contract, and the division of the patent right is similarly set out in the specific terms of the contract, rather than being subject to subsequent negotiations. Thus, the value of the patent rights is incorporated in the exchange of value that the government and contractor agree upon in negotiating the initial contract. Since that bargain is struck at arm’s length, the patent elements of the deal convey no benefit.

327. Both DoD and NASA negotiate vigorously with their contractors to obtain the most value for the government money. DoD and NASA contracts with Boeing are typically bid on a competitive basis, and where they are not, the agencies follow regulations designed to achieve a market-based result. Therefore, the bargain struck between them will represent an exchange of value for value, with the value paid by the government providing adequate remuneration for the value conferred by the contractor.

328. The patent rights clauses, which are standardized for both agencies,⁴³⁶ form part of the basis upon which the parties evaluate the overall value of the deal, and would inform their willingness to grant concessions on negotiable elements of the contract, such as the fee, schedule, technical requirements, term of the agreement, and amount of resources that the contractor will contribute to the work.⁴³⁷ In this regard, it is important to note that patents are not the ultimate objective of most government contracts. As the statements of work for the contracts demonstrate, DoD and NASA aim to develop ideas or technologies that will further agency objectives, rather than patents as such. In any event, at the negotiation stage, the parties

⁴³⁵ ECFWS, paras. 841-842.

⁴³⁶ NASA maintains different clauses for large and medium contractors, as opposed to small businesses, universities, and other research institutions, but the clauses are standard as to each group.

⁴³⁷ Under U.S. government contracting law, the “fee” on a cost-based contract is the element that provides an incentive for participation by a commercial supplier, and is typically the source of any profit that the supplier realizes. 48 C.F.R. § 16.401 (Exhibit US-140).

typically do not know the likelihood that the work will lead to a patentable invention. Nor do they know whether employees of the private party or the government party will first conceive the invention. Therefore, each side's perception of the value of the contract reflects, in part, the *perceived probability* of an invention. The actual value of the invention that does result – which neither side can know at the outset – plays no role.

329. Even if considered in isolation, the patent clauses in U.S. government contracts indicate a rough balance between the parties. If a contractor employee first discovers an invention, each side gets the rights of greatest importance to it. The government can use the invention free of charge for a government purpose. The contractor may use the invention free of charge on its products. Use by third parties is roughly split. The government may allow other suppliers to use the invention free of charge on future contracts, an important concession when the U.S. government is the world's largest consumer of aviation products. The contractor may charge other nongovernmental entities a licensing fee for use of the invention for non-governmental purposes.

330. These facts demonstrate the error in the EC claim that "Boeing is not required to pay anything in return for these intellectual property right waivers/transfers." In the first place, any such rights arise because the parties agree to the disposition of the rights at the time of the contract. Thus, they form part of the value that each party exchanges. Moreover, even if it were possible to look at patent rights in isolation, that analysis only reinforces the conclusion that the company received no benefit. If Boeing had performed the research leading to any of the patents at issue outside of the government contract, it would have had full rights, including the right to charge for use of the patented invention in the government's own activities and under government contracts with other suppliers. In agreeing to perform the research under contract, it gives up those rights.

331. This analysis points to another flaw in the EC arguments. The EC contends (as part of its financial contribution analysis) that the patents in question should be valued at \$726.4 million. That assertion is irrelevant. Article 14(d) is clear that under Article 1.1(a)(1)(iii), "the adequacy of remuneration shall be determined in relation to prevailing market conditions for the good or service in question in the country of provision or purchase" To the extent that a provision of patent rights can be considered a provision of "goods" – a position that the United States does not accept – DoD and NASA committed those rights at the time they signed the contract. And, at that time, the prevailing value of the right in question – the right for the contractor to take title (subject to the government purpose license) to any patent that might arise from the research – could not be based on the value of a patent that did not issue until many years later.

332. This conclusion changes under the EC alternative theory, that the value of the benefit was the foregoing of licensing fees. The value of licensing fees that actually did result was unknown at the time of negotiation and cannot have influenced the outcome.

333. In fact, the panel in *Korea – Commercial Vessels*, facing a similar situation in deciding whether to evaluate a debt-for-equity swap based on the value of the equity when it was publicly traded several months after the swap, concluded:

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 public 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.⁴³⁸

An *ex post* analysis is exactly what the EC is suggesting in this dispute, except this time based on the values of patents issued between four and ten *years* (not merely “several months”) after negotiation of the underlying contracts.⁴³⁹

3. *The retention of patent rights by government contractors is not specific because it is generally available, and is not restricted to an enterprise or industry or group of enterprises or industries.*

334. The treatment of patent rights under U.S. government research contracts is *de jure* non-specific because the authorities have established objective criteria for retention of patent rights under contracts with the government. The first, and most important, is that the contractor enter into a contract to perform “experimental, developmental, or research work.” The meaning of these terms is clear and objective. Not all companies actually perform such work, but they (and the administering authorities) understand the terms and can judge with objectivity whether particular contractors qualify. The second criterion relates to the type of contractor. The legal authorities provide objective criteria for determining whether a contractor falls into the university, other nonprofit organization, or small business category covered by the Bayh-Dole Act, or into the medium and large business category covered by the Presidential Memorandum. (Footnote 2 to Article 2.1(b) specifies that size of a company is an objective criterion.) The

⁴³⁸ *Korea – Commercial Vessels*, para. 7.491. (Para. 7.488 describes the transaction in question.)

⁴³⁹ The EC’s analysis of patents conceived under DoD and NASA contracts addresses the following patents:

Contract under which patent was conceived	Date of contract under which patent was conceived		Years from contract to patent	
	Patent	Date of patent		
F33657-91-C-0006	1991	5683607	Nov. 4, 1997	6
NAS1-20546	Sept. 18, 1995	5902535	May 11, 1999	9
NAS1-20546	Sept. 18, 1995	6840750	Jan. 11, 2005	9
MDA982-94-3-0014	1994	5919267	July 6, 1999	5
NCC-8-39	N/A	6920790	July 26, 2005	N/A

identification of the category that applies to a given contractor determines the proper contract clause. There are some exceptions to the application of these rules, and some of the standard clauses have alternative provisions. But, again, the applicable rules spell out explicitly the conditions under which any exceptions apply or alternative clauses are permissible.

335. The EC argues that because NASA undertakes R&D programs pursuant to the Space Act, patent rights arising from contracts that support those programs are themselves “specific to the enterprises that participate in aeronautics and space-related R&D.”⁴⁴⁰ However, the treatment of which the EC complains – the retention by NASA contractors of their patent rights – arises under the NASA procurement regulations and the patent waiver regulations, which in turn look to the policy established in the Presidential Memorandum of February 18, 1983 and Executive Order 12591.⁴⁴¹ Those authorities apply generally to all federal departments and agencies. Thus, the substantive treatment in question is not specific to aeronautics and space R&D but, as shown above, is the same as the treatment of all contractors under U.S. government R&D contracts. Nothing in Article 2.1(a) or (b) suggests that the use of agency-specific procedures detracts from the general availability of the substantive treatment it affords.

336. The EC tries a different approach for DoD, asserting that clauses allowing companies to retain their patent rights are mandatory only to RDT&E contracts, and arguing that they are therefore specific to companies capable of conducting RDT&E activities. The EC describes these as “(1) basic research; (2) applied research; (3) advanced technology development; (4) advanced component development and prototypes; (5) system development and demonstration; (6) RDT&E management support; and (7) operational system development.”⁴⁴² The point we made above with regard to NASA applies with even greater force to DoD. The regulation governing DoD’s patent rights clause – 48 C.F.R. § 27.303 – does not restrict the patent rights clause to RDT&E contracts as DoD defines that term. Instead, it describes the requirement to use the patent rights clause as extending generally to “contracts . . . for experimental, developmental, or research work.” Whatever the definition, almost any number of company’s could engage in that work. In fact, DoD records show that thousands of companies of all types,

⁴⁴⁰ ECFWS, para. 852.

⁴⁴¹ 48 C.F.R. § 1827.302 (“NASA policy with respect to any invention, discovery, improvement, or innovation made in the performance of work under any NASA contract or subcontract with other than a small business firm or a nonprofit organization and the allocation of related property rights is based upon Section 305 of the {Space Act}; and, to the extent consistent with this statute, the Presidential Memorandum on Government Patent Policy to the Heads of Executive Departments and Agencies, dated February 18, 1983, and Section 1(b)(4) of Executive Order 12591”) (Exhibit US-141); 14 C.F.R. § 1245.103(a) (“In implementing the provisions of section 305(f) of the {Space Act} and in determining when the interests of the United States would be served by waiver of all or any part of the rights of the United States in inventions made in the performance of work under NASA contracts, the Administrator will be guided by the objectives set forth in the {Space Act} and by the basic policy of the Presidential Memorandum and Statement of Government Patent Policy to the Heads of the Executive Departments and agencies dated February 18, 1983.”) (Exhibit US-142).

⁴⁴² ECFWS, para. 853.

not just typical RDT&E contractors, supply research, developmental, testing, and evaluation services to DoD each year.⁴⁴³

337. These are the only arguments the EC presents in support of its claim of *de jure* specificity. Since the EC's analysis has not demonstrated any provision that "explicitly limits access to a subsidy to certain enterprises," it has failed to establish *de jure* specificity.

338. The EC has also failed to meet its burden of proof as to *de facto* specificity. For NASA, it asserts that Boeing received a disproportionate share of funding because it accounted for an average of 23.4 percent of all contracts, and as much as 31.4 percent nine years ago, in 1998.⁴⁴⁴ However, Boeing's share of NASA aeronautics research contracts by face value was, in fact, 16 percent from 1989 through 2006.⁴⁴⁵ With regard to DoD, the EC focuses on Boeing's 12.6 percent average share of total RDT&E funding from 1991 through 2005, along with the 45.2 percent share held by five "aerospace companies."⁴⁴⁶ The EC, however, never explains exactly what these various percentages are disproportionate *to*, or why the share of the value of contracts is relevant to an evaluation of patent rights that are established on a contract-by-contract basis. In our view, the more relevant figure for NASA is that it granted 672 waivers since 1989, of which Boeing accounted for 80, or 11.9 percent. Thus, Boeing's share of patent waivers is less than its share of the value of aeronautics research contracts. As for DoD, it uses standardized clauses in all of the contracts it signs, and equivalent clauses in agreements. As we noted above, DoD enters into RDT&E contracts with – literally – thousands of enterprises every year. Thus, a consideration of the EC's arguments regarding the "other factor" of proportionality does not change the fact that all the factors as a whole indicate that DoD RDT&E is non-specific.

339. The EC attempts to bolster its *de facto* specificity claim with regard to NASA by noting that Boeing employees served on the NASA Advisory Council during the 1989-2006 period, and asserting that, therefore, "NASA exercises discretion in granting subsidies in a manner that takes full account of Boeing's views and needs."⁴⁴⁷ The EC does not explain why it considers this information relevant to the exercise of discretion. In fact, it is not. NASA solicits and receives a broad range of input from the general public, including universities, consumers, and the aeronautics industry, and seeks to take "full account" of all "views and needs" it receives. Insofar as those views come through the NASA Advisory Council, any Boeing input was quite diluted – of the 136 different people who served on the council from 1997 to 2007, only seven

⁴⁴³ DoD RDT&E Contracts \$25,000 or Greater, FY 2006 (Exhibit US-34).

⁴⁴⁴ ECFWS, para. 854.

⁴⁴⁵ This figure is based on the amount obligated for NASA aeronautics contracts. NASA's historical data did not permit calculation of this figure based on the amounts actually disbursed to Boeing and other contractors.

⁴⁴⁶ ECFWS, para. 855. The EC also cites Boeing's 17.7 percent share of 2001 RDT&E funding, but does not explain why the share in one year is relevant to a claim that spans 17 years.

⁴⁴⁷ ECFWS, para. 854.

were Boeing employees.⁴⁴⁸ In any event, the NASA Advisory Council Charter specifies that the council's role is to "provide advice and make *recommendations* to the NASA Administrator on Agency programs, policies, plans, and other matters pertinent to the Agency's responsibilities."⁴⁴⁹ It does not select actual areas of research, determine funding, or select contractors.

340. With regard to DoD, the EC asserts that Boeing's 12.6 percent average share of total RDT&E funding from 1991 through 2005 was "disproportionate."⁴⁵⁰ It further asserts that five "aerospace companies" account for, on average 45.2 percent of total DoD RDT&E spending. These statistics prove nothing. Boeing's share of total RDT&E contracting from 1996 through 2006 was 13.6 percent, which is not disproportionate with its 11.5 percent share of total DoD purchases of supplies and equipment.⁴⁵¹ The EC also asserts that the top five RDT&E contractors had a 46.8 percent share of total RDT&E expenditures. However, it fails to explain why this figure demonstrates anything about *Boeing*, or why this figure is "disproportionate" to anything else. Moreover, it is inaccurate to characterize these companies as belonging to a single "aerospace" industry, as all have significant other business that, in the case of Raytheon, is larger than the aerospace component.⁴⁵² Since RDT&E contracts (and the patent rights they preserve) are not disproportionate to the recipients' role in supplying the general infrastructure of national defense, the information cited by the EC does establish specificity for purposes of Article 2.1(c).

B. NASA and DoD Protection of Trade Secrets is Not a Financial Contribution, Does Not Convey a Benefit, and is Not Specific.

341. It is a widely held belief that governmental bodies should not publicly disclose proprietary information submitted by their constituents. The SCM Agreement itself repeatedly confirms this principle with regard to countervailing duty proceedings (Articles 12.4, 22.4, 22.5, and 22.6) and information-gathering processes for claims under Article 7 (Annex V, para. 2, note 67, and para. 3). In the United States, the Trade Secrets Act prohibits any federal employee from disclosing any trade secrets coming to the employee in the course of employment or official

⁴⁴⁸ Membership of the NASA Advisory Council, 1997-2007 (Exhibit US-143). Two additional members were retired Boeing employees serving in their individual capacities.

⁴⁴⁹ National Aeronautics and Space Administration, Charter of the NASA Advisory Council, PURPOSE AND DUTIES, para. 1 (Exhibit US-144) (emphasis added).

⁴⁵⁰ ECFWS, para. 855. The EC also cites Boeing's 17.7 percent share of 2001 RDT&E funding, but does not explain why the share in one year is relevant to a claim that spans 17 years.

⁴⁵¹ Top DoD Contractors: Percentage of Contracting (Exhibit US-32). The EC cites 12.6 percent, for the 1991-2006 period. ECFWS, para. 770. We used data for the 1996-2006 period because that is the longest time for which DoD had available comprehensive data allowing a systematic comparison between the value of RDT&E contracts and contracts for supplies and equipment.

⁴⁵² Raytheon 10-K Report, pp. 3-5 (2006) (Exhibit US-133).

duties.⁴⁵³ Trade secrets are even exempted from requirements to disclose information under the U.S. Freedom of Information Act.⁴⁵⁴

342. Therefore, it should come as no surprise that NASA’s rules on the dissemination of scientific and technical information prohibit the disclosure of trade secrets that come into the agency’s possession as a result of a contract, grant, or cooperative agreement. It is hard to imagine how NASA (or any government agency) could achieve its statutory mission without such protection. If participation in NASA programs required the public revelation of proprietary secrets, companies would refuse to participate.

343. The EC asserts that this protection is a subsidy because “the US LCA industry receives valuable rights to trade secrets developed through research funded by NASA.”⁴⁵⁵ This statement is not correct. First, if a trade secret is lawfully disclosed to the public or otherwise becomes publicly known, the company has no legal mechanism to prevent its use by a competitor. Second, trade secrets subject to protection are not developed through NASA funded research, but through privately funded endeavors. The provision cited by the EC begins by noting that “{i}n the performance of a contract, grant, or cooperative arrangement, usually which is cost-shared, the *contractor, grantee, or partner* may produce technical data which qualifies as trade secret information.”⁴⁵⁶ It is also significant that the research is the product of cost-sharing – that is, the contractor is paying for a part of the work. It is not receiving anything for free.

344. Although the EC recognizes that trade secrets are different from patents and data rights, it tries to evade its burden to meet the requirements of Articles 1 and 2 by aggregating the analysis of these programs. A proper evaluation of each factor demonstrates the fallacy of their arguments regarding trade secrets.

345. **There is no financial contribution.** The EC characterizes trade secrets as the transfer of an intellectual property right that conveys a financial contribution in the form of either the provision of a good or the revenue foregone. However, the EC has provided no evidence that a private party would charge a fee for maintaining confidential information in confidence. Therefore, the EC has presented no basis to conclude that the treatment of trade secrets foregoes revenue otherwise due.

346. **The protection of a trade secret does not convey a benefit.** The EC argues that this treatment conveys a benefit because “Boeing is not required to pay anything for these intellectual

⁴⁵³ Trade Secrets Act, 18 U.S.C. § 1905 (Exhibit US-145).

⁴⁵⁴ Freedom of Information Act, 5 U.S.C. § 552(b)(4) (“This section does not apply to matters that are . . . trade secrets and commercial or financial information obtained from a person and privileged or confidential.”) (Exhibit US-146).

⁴⁵⁵ ECFWS, para. 833.

⁴⁵⁶ Requirements for Documentation, Approval, and Dissemination of NASA Scientific and Technical Information (STI) w/Change 1 (9/10/03), Revalidated 8/12/04, para. 4.5.7.1.2 (Exhibit EC-587).

property right waivers/transfers.”⁴⁵⁷ However, the EC has provided no evidence to support the proposition that a private actor would normally pay a party receiving confidential information to maintain that confidentiality. Therefore, it has failed to meet its burden of proof.

347. **The protection of a trade secret is not specific.** As we noted above, the protection of trade secrets by governments that receive them is a pervasive right in the United States. Therefore, NASA’s treatment of trade secrets is not specific.

C. The Allocation of License Rights to Data Under NASA and DoD Contracts is Not a Financial Contribution, Does Not Convey a Benefit, and is Not Specific.

348. Data rights define how the parties to a government contract may use the data made available under that contract. That data can take many forms: raw data resulting from experiments or tests, a report, a set of specifications, the manual to a product, or even a film. When the data is part of the purpose of a contract, the split of the data rights is an important element of the bargain struck between the parties.

349. The general data rights regulations applicable to NASA explain:

(a) It is necessary for the departments and agencies, in order to carry out their missions and programs, to acquire or obtain access to many kinds of data produced during or used in the performance of their contracts.

* * * * *

(b) At the same time, the Government recognizes that its contractors may have a legitimate proprietary interest (e.g., a property right or other valid economic interest) in data resulting from private investment. Protection of such data from unauthorized use and disclosure is necessary in order to prevent the compromise of such property right or economic interest, avoid jeopardizing the contractor’s commercial position, and preclude impairment of the Government’s ability to obtain access to or use of such data. The protection of such data by the Government is also necessary to encourage qualified contractors to participate in Government programs and apply innovative concepts to such programs. In light of the above considerations, in applying these policies, agencies

⁴⁵⁷ ECFWS, para. 850.

shall strike a balance between the Government’s need and the contractor’s legitimate proprietary interest.⁴⁵⁸

In short, with data rights, the government gets only what it pays for, just as it does with other elements of its procurements.

350. Under the general acquisition regulations, which apply to NASA, the source of funds used to produce the data dictates, in the first instance, the level of government and contract data rights. “{D}ata developed at private expense that embody trade secrets or are commercial or financial and confidential or privileged,” are “limited rights data.”⁴⁵⁹ The contractor can withhold such information even from the government unless the relevant agency successfully negotiates to obtain it.⁴⁶⁰ The concept is straightforward – the existence of the contract does not entitle the government to data for which it has not paid. In contrast, any data delivered under the contract that is not “limited rights data” is eligible for treatment as “unlimited rights data,” which the government may use as it sees fit, both inside and outside of the government.⁴⁶¹

351. The general procurement rules give the government and its contractors flexibility to modify this treatment. For example, if the contractor contributes resources toward a project (known as “cosponsoring”), the parties may structure the data rights to take account of “the purpose of the cosponsored research and development, the legitimate proprietary interests of the contractor, the needs of the Government, and the respective contributions of both parties.”⁴⁶² The government may also decide to pay a contractor extra to get rights in addition to limited rights data, or give up some of its unlimited rights in exchange for concessions elsewhere. All of these possibilities are part of the final bargain.

352. NASA faced a joint funding situation with regard to the ACT, HSR, and AST programs. Selected data in the HSR, AST, and AST programs were designated as Limited Exclusive Rights Data (“LERD”) to protect design concepts developed by the participating contractors. In exchange for contributing a significant amount of their own resources to contract research efforts, Boeing and other contractors negotiated to limit the otherwise unlimited rights that the U.S. government would normally have in specifically identified data developed in the course of that contracted research. They memorialized their agreement in a “Limited Exclusive Rights” clause in a small number of contracts, setting out the limitations on the government’s use of the particular types of data, and specifying other types of data that were not subject to those limitations. The limitations automatically expired after a fixed period – normally five years for

⁴⁵⁸ 48 C.F.R. § 27.402 (Exhibit US-147).

⁴⁵⁹ 48 C.F.R. § 27.401 (Exhibit US-147).

⁴⁶⁰ 48 C.F.R. § 27.404(b) (Exhibit US-147).

⁴⁶¹ 48 C.F.R. §§ 27.401 and 27.404(a) (Exhibit US-147).

⁴⁶² 48 C.F.R. § 27.408(a) (Exhibit US-147).

HSR and two years for AST – after which NASA was free to release the data publicly.⁴⁶³ Program participants – some of which would go on to be Airbus suppliers – had immediate access to LERD data. NASA use LERD clauses only in the cited programs, which are now over, and there is currently no information subject to LERD protections under old contracts.

353. The DoD data rights regulations take an approach similar to the general rules. Limited rights apply to data developed exclusively at private expense.⁴⁶⁴ Unlimited rights apply to data developed exclusively with government funds.⁴⁶⁵ DoD, however, recognizes a third category of “government purpose rights” to data created with mixed government and private funding.⁴⁶⁶ For data in this category, the government may release the data (subject to appropriate protections) for a government purpose, such as performance of a government contract by another contractor, but may not use the data for any commercial purpose.⁴⁶⁷ This protection lasts for a limited period, usually five years, after which the government has unlimited rights.

354. Although the EC recognizes that data rights are different from patents and trade secrets, it tries to evade its burden to meet the requirements of Articles 1 and 2 by aggregating the analysis of these programs. A proper evaluation of each factor demonstrates the fallacy of the EC’s arguments regarding data rights.

355. **There is no financial contribution.** The contract provisions that allocate license rights in data merely guarantee that contractors retain a portion of those rights, while the government takes the portion relevant to the government’s interest, namely, the government purpose rights. The government “contributes” nothing within the meaning of Article 1.1(a)(1).

356. Thus, the EC’s arguments that the government has foregone revenue because “entities making use of a government’s intellectual property rights would ordinarily need to pay license fees for such use”⁴⁶⁸ is beside the point. There cannot be a “provision” for purposes of Article 1.1(a)(1)(iii) when the government confirms the data generator’s rights and provides nothing additional. And, as DoD and NASA merely allowed Boeing to retain the intellectual property rights to which it was entitled under general copyright law, the agencies did not forego any revenue within the meaning of Article 1.1(a)(1)(ii).

⁴⁶³ However, if LERD data were also proprietary, subject to export controls, or otherwise restricted, the expiration of the LERD limitations would not change the applicability of any other restrictions.

⁴⁶⁴ 48 C.F.R. § 227.7103-5(c)(1) (Exhibit US-148).

⁴⁶⁵ 48 C.F.R. § 227.7013-5(a)(1) and (3) (Exhibit US-148). Unlimited rights also apply to reports specified as an element of performance of the contract; form, fit and function data; operation manuals and similar documents; publicly available data; and data to which the government has unlimited rights under another contract. 48 C.F.R. § 227.7013-5(a)(2) and (4)-(8) (Exhibit US-148).

⁴⁶⁶ 48 C.F.R. § 227.7013-5(b)(1) (Exhibit US-148).

⁴⁶⁷ 48 C.F.R. § 227.7013-5(b)(4) (Exhibit US-148).

⁴⁶⁸ ECFWS, paras. 841-842.

357. **The data rights clauses in question do not convey a benefit.** As the federal government rules for procurement demonstrate, the allocation of data rights is subject to negotiation between the parties, each of which is trying to get the best bargain. Parties make trade-offs between data rights and cost, and between data rights and other terms of the contract. Many of these negotiations take place in the context of competitive bidding, which further enforces market discipline on the allocation of rights. Where contracts are not subject to bidding, the agencies follow regulations designed to achieve a market-based result.

358. Therefore, the EC's contention that "Boeing is not required to pay anything in return for these intellectual property right waivers/transfers"⁴⁶⁹ is incorrect. In the first place, the data rights that Boeing ceded to the government are part of what it provided in exchange for the money the government paid for Boeing's services. To the extent that Boeing retains some of the data rights, the government pays a lower price. Moreover, even if it were possible to look at data rights in isolation, that analysis only reinforces the conclusion that the company received no benefit. When Boeing funds research outside of a government contract, it has full rights to all data, including the right to charge the government (and other government contractors) for use of those data in subsequent projects. In performing the research under contract, it has sacrificed those rights.

359. **The data rights clauses in question are not specific.** The LERD clauses were specific to the aeronautics community. However, the other data rights clauses that form the basis for the EC claims followed standard clauses are set out in U.S. government regulations and available to all contractors in specified circumstances. The EC has not provided any basis to conclude that the standard clauses were specific to certain enterprises within the meaning of Article 2.1. Therefore, it has failed to satisfy its burden of proof with regard to the specificity of those clauses.

⁴⁶⁹ ECFWS, para. 850.

VII. U.S. DEPARTMENT OF COMMERCE ADVANCED TECHNOLOGY PROGRAM

A. Program Description

360. The U.S. Congress created the Advanced Technology Program (“ATP”) in 1988 to assist U.S. companies in funding early-stage, high-risk research into innovative technologies that could deliver broad-based economic rewards for the United States as a whole.⁴⁷⁰ These technologies would likely not be developed without the program’s support because they would be considered too risky by industry.⁴⁷¹ ATP is a cost-sharing program. It uses cooperative agreements as funding instruments to assist in financing projects in which private companies, universities, government laboratories, independent research institutions, and/or non-profit organizations participate. The selection of ATP projects is done on a rigorous, peer-reviewed, competitive basis and is subject to established selection criteria.

361. The National Institute of Standards and Technology (“NIST”), the Department of Commerce agency that administers ATP describes its mission as follows:

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.⁴⁷²

362. Contrary to the EC’s portrayal, ATP does not fund the development of particular products.⁴⁷³ Rather, ATP supports early-stage enabling technologies that are essential to the development of new products, processes, and services across diverse application areas. Industry bears the cost of any product development, production, marketing, sales, and distribution.⁴⁷⁴

⁴⁷⁰ 15 C.F.R. § 295.1(a) (Exhibit EC-534).

⁴⁷¹ NIST, *Measuring ATP Impact: 2006 Report on Economic Progress*, p. 13 (March 2007), available at www.atp.nist.gov/eao/gcr06-99.pdf (last visited May 7, 2007) (Exhibit US-149). Pelsoci, Thomas, *ATP-Funded Green Process Technologies: Improving U.S. Industrial Competitiveness with Applications in Packaging, Metals Recycling, Energy, and Water Treatment*, GCR 06-897, p. iv (Feb. 2007), <http://atp-i.nist.gov/eao/gcr06-897.pdf> (last visited May 8, 2007) (Exhibit U.S.-150) (“Given that ATP’s industry partners would not have developed high-risk, low-cost, green process technologies without ATP’s cost share, ATP funding enabled these technology advances, associated market opportunities, and resultant public benefits.”).

⁴⁷² NIST, *Measuring ATP Impact: 2006 Report on Economic Progress*, p. 2 (March 2007), available at www.atp.nist.gov/eao/gcr06-99.pdf (last visited May 7, 2007) (Exhibit US-149).

⁴⁷³ ECFWS, para. 774.

⁴⁷⁴ 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).

363. The broad array of technology areas that ATP has funded bears witness to its goal of generating broad-based national economic benefits. Since the program began making project awards in 1990, it has made 768 project awards that extend across the fields of advanced materials and chemicals, biotechnology, electronics, computer hardware, and communications, information technology, and manufacturing.⁴⁷⁵

364. The specific technologies that have resulted from ATP projects are even more diverse. They include, for example, animal and plant biotechnology, automobile manufacturing, biomolecular and biomimetic materials, computer hardware, diagnostic and therapeutic biotechnology, environmental technologies, imaging and image processing, intelligent control, marine biology, materials handling, nanotechnology, optics and photonics, and semiconductors.⁴⁷⁶

365. ATP research projects are conceived and undertaken at the initiative of the private and non-profit sector participants. ATP does not target specific companies or institutions to receive funding or participate in projects. Instead, companies, and nonprofit institutions within joint ventures, submit project proposals on a variety of subject matters to ATP. Projects that receive funding are chosen on a competitive basis, subject to a rigorous peer-review process and established selection criteria. Following completion of a successful ATP project, private industry bears the full costs of product development and commercialization of the technology.

366. There are few limitations on eligibility for participation in ATP projects. Companies of all sizes, sectors, and industries may apply for and receive ATP funding. They may apply individually or as members of joint ventures, which are led by at least two separately owned, for-profit companies, both of which must contribute to the cost-sharing requirement. Joint ventures may also include other companies, universities, non-NIST government laboratories, and nonprofit institutions.⁴⁷⁷ In fact, NIST has been successful in attracting an extremely diverse set of companies and other entities that have participated in ATP projects. Since the program's inception, there have been 1,511 participants in 768 ATP awards.⁴⁷⁸

367. Of the 768 ATP projects, 218 have been structured as joint ventures, which have received some \$1.3 billion of the total \$2.3 billion disbursed by the ATP to date.⁴⁷⁹ In addition,

⁴⁷⁵ 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).

⁴⁷⁶ ATP Funded Technologies, available at <http://www.atp.nist.gov/atp/category.htm> (last visited May 8, 2007) (Exhibit US-152).

⁴⁷⁷ 15 U.S.C. § 278n(b)(1) (Exhibit EC-532); 15 C.F.R. § 295.2(I) (Exhibit EC-534) .

⁴⁷⁸ NIST, *Measuring ATP Impact: 2006 Report on Economic Progress*, p. 2 (March 2007) available at www.atp.nist.gov/ea0/gcr06-99.pdf (last visited May 7, 2007) (Exhibit US-149).

⁴⁷⁹ Historical Statistics on Applications and Awards, Factsheet 3.A1 (Sept. 2004) available at <http://www.atp.nist.gov/factsheets/3-a-1.pdf> (last visited May 8, 2007) (Exhibit US-153); ATP Awards Summary

universities, government laboratories, independent research institutions, and non-profit organizations have played an important role in ATP projects. For example, approximately 60 percent of ATP projects have involved university participation, and over 170 different universities have been involved in ATP projects.⁴⁸⁰

368. Furthermore, ATP's statutory and regulatory framework places express emphasis on creating research opportunities for small companies.⁴⁸¹ This legal framework emphasizing small business participation has proven successful, and small businesses have taken a leading role in ATP. To date, approximately two-thirds of all ATP projects have been led by small companies, and over three-fourths of ATP projects include small business participation as project leads, joint venture partners, or subcontractors.⁴⁸² Projects led by small companies (either individually or through joint ventures) have received some \$1.2 billion of the total \$2.3 billion awarded by the ATP since 1990.⁴⁸³

369. In contrast to small businesses, large companies have received far less ATP funding. Large companies, currently defined as those with annual revenues exceeding approximately \$3 billion including all subsidiaries and affiliated units, have led only 92 ATP projects, either individually or through joint ventures, and have accounted for only 333 of the total 1,511 participants.⁴⁸⁴ Projects led by large companies have received only \$445 million of the \$2.3 billion awarded by ATP.⁴⁸⁵

370. Not only does ATP provide funding to U.S. companies and entities of all sizes, U.S.-incorporated subsidiaries of non-U.S. parent companies are eligible to lead or participate in ATP projects. The EC's assertions regarding ATP's restrictions on foreign participation are simply incorrect.⁴⁸⁶ U.S. subsidiaries of foreign parent companies may participate in ATP if:

⁴⁷⁹(...continued)

Data - Funding, Factsheet 3.A3 (Sept. 2004) available at <http://www.atp.nist.gov/factsheets/3-a-3.pdf> (last visited May 7, 2007) (Exhibit US-154).

⁴⁸⁰ University Participation in ATP Projects, Factsheet 3.D8 (Sept. 2004) available at <http://www.atp.nist.gov/factsheets/3-d-8.pdf> (last visited May 7, 2007) (Exhibit US-155).

⁴⁸¹ 15 U.S.C. § 278n(d)(4) (Exhibit EC-532) and 15 C.F.R. § 295.1(c) (Exhibit EC-534).

⁴⁸² NIST, *Measuring ATP Impact: 2006 Report on Economic Progress*, p. 17 (March 2007) available at www.atp.nist.gov/eao/gcr06-99.pdf (last visited May 7, 2007) (Exhibit US-149).

⁴⁸³ ATP Awards Summary Data - Funding, Factsheet 3.A3 (Sept. 2004) available at <http://www.atp.nist.gov/factsheets/3-a-3.pdf> (last visited May 8, 2007) (Exhibit US-154).

⁴⁸⁴ ATP Awards Summary Data - Funding, Factsheet 3.A2 (Sept. 2004) available at <http://www.atp.nist.gov/factsheets/3-a-2.pdf> (last visited May 8, 2007) (Exhibit US-156).

⁴⁸⁵ ATP Awards Summary Data - Funding, Factsheet 3.A3 (Sept. 2004) available at <http://www.atp.nist.gov/factsheets/3-a-3.pdf> (last visited May 8, 2007) (Exhibit US-154).

⁴⁸⁶ ECFWS, paras. 779-784. Although the EC asserts that "ATP funding is limited to U.S. companies," ECFWS, para. 779, nowhere in its discussion of the alleged restrictions on foreign participation does it cite to its

(continued...)

(1) the participation of the U.S. subsidiary is in the United States' economic interest; (2) the home country of the parent company provides U.S.-owned companies comparable opportunities; (3) the home country of the parent company provides U.S.-owned companies opportunities for local investment comparable to those of other companies; and (4) the home country of the parent company provides adequate and effective protection of the intellectual property rights of U.S.-owned companies.⁴⁸⁷

371. As of September 2003, ATP completed 106 foreign eligibility findings. Of these, 73 related to companies intending to lead projects, either individually or through joint ventures. (The remaining findings related to companies seeking either to join existing projects or to continue their participation following a change in ownership.) To date, ATP has approved 104 of the 106 requests.⁴⁸⁸

372. Upon completion of the foreign eligibility findings, numerous U.S. subsidiaries of foreign-owned parent companies have participated in ATP projects. As of September 2003, 74 U.S. subsidiaries of foreign-owned parent companies had participated in ATP projects.⁴⁸⁹ In addition, of the 768 projects receiving ATP funding to date, 65 projects have involved the participation of a U.S. subsidiary of a foreign-owned parent company.⁴⁹⁰

⁴⁸⁶(...continued)

earlier exhibit, Exhibit EC-535, Connie K.N. Chang, *ATP Eligibility Criteria for U.S. Subsidiaries of Foreign-Owned Companies: Legislation, Implementation, and Results*, NISTIR-6099A (March 2004). As its name implies, this document sets forth the criteria for foreign participation in ATP and documents the participation of U.S. subsidiaries of foreign parents in ATP. The EC also erroneously asserts that ATP restricts foreign companies from accessing ATP-funded technology, particularly intellectual property rights. ECFWS, para. 783. Although U.S. companies must own the intellectual property rights from ATP-funded projects, they are permitted to license their intellectual property rights to the foreign parents of U.S. subsidiaries or other foreign companies. In any event, the relevance of the EC's discussion regarding foreign participation in ATP is unclear.

⁴⁸⁷ 15 U.S.C. § 278n(d)(9)(B)(ii) (Exhibit EC-532); 15 C.F.R. § 295.3(a)(2) (Exhibit EC-534); Connie K.N. Chang, *ATP Eligibility Criteria for U.S. Subsidiaries of Foreign-Owned Companies: Legislation, Implementation, and Results*, NISTIR-6099A, p. 3 (March 2004) available at <http://www.atp.nist.gov/eao/ir-6099/nistir6099.pdf> (last visited May 7, 2007) (Exhibit EC-535).

⁴⁸⁸ Connie K.N. Chang, *ATP Eligibility Criteria for U.S. Subsidiaries of Foreign-Owned Companies: Legislation, Implementation, and Results*, NISTIR-6099A, p. 15 (March 2004) available at <http://www.atp.nist.gov/eao/ir-6099/nistir6099.pdf> (last visited May 7, 2007) (Exhibit EC-535). The two rejected Japanese companies, and the negative foreign eligibility findings in both cases related to the restrictive domestic policies of Japan at that time, rather than any deficiencies on the part of the individual companies. Since 2004, more than one Japanese owned company has participated in an ATP project.

⁴⁸⁹ Connie K.N. Chang, *ATP Eligibility Criteria for U.S. Subsidiaries of Foreign-Owned Companies: Legislation, Implementation, and Results*, NISTIR-6099A, p. 17-20 (March 2004) available at <http://www.atp.nist.gov/eao/ir-6099/nistir6099.pdf> (last visited May 7, 2007) (Exhibit EC-535).

⁴⁹⁰ Connie K.N. Chang, *ATP Eligibility Criteria for U.S. Subsidiaries of Foreign-Owned Companies: Legislation, Implementation, and Results*, NISTIR-6099A, p. 21-29 (March 2004) available at <http://www.atp.nist.gov/eao/ir-6099/nistir6099.pdf> (last visited May 7, 2007) (Exhibit EC-535).

373. Companies from EU Member States have figured prominently as foreign participants in ATP projects. Of the 74 companies with foreign parents that have participated in ATP projects, 57 are subsidiaries of parent companies located in EU Member States. In particular, these subsidiaries have parent companies incorporated in the United Kingdom, Germany, France, the Netherlands, Italy, Sweden, Austria, Denmark, and Finland.⁴⁹¹

374. ATP imposes strict selection criteria on proposed projects, which arise from the program's regulatory framework. In particular, a company or joint venture applying for ATP funding must demonstrate that the proposed project has both "scientific and technological merit" and the "potential for broad-based economic benefits."⁴⁹² Successful proposals must balance high technical risk with evidence of scientific and/or engineering feasibility for overcoming that risk. Entities applying for ATP funding must submit a "technical plan" that explains how technical objectives will be reached and how anticipated problems will be overcome. They must also explain the national economic significance of their proposal, the benefits to society, the improvements upon future technology, and who might use the technology in the future. ATP applicants must also explain their need for ATP funding and the pathway to economic benefit, including how the technology will be broadly diffused.⁴⁹³

375. ATP applies these criteria in a rigorous evaluation process that involves a peer-review competition to determine which proposals will receive funding. Peer reviewers are experts in fields such as biotechnology, photonics, chemistry, manufacturing, information technology, and materials. All ATP proposals, including those involving a broad, multi-disciplinary mix of technologies, receive appropriate technical and business reviews.⁴⁹⁴

376. ATP is a cost-sharing program. After a project is selected for funding, ATP requires that project participants, whether single companies or joint ventures, contribute a significant proportion of the funds necessary to finance a project. Pursuant to ATP's strict cost-sharing rules, joint ventures must contribute at least half of total project funding.⁴⁹⁵ Large companies

⁴⁹¹ Connie K.N. Chang, *ATP Eligibility Criteria for U.S. Subsidiaries of Foreign-Owned Companies: Legislation, Implementation, and Results*, NISTIR-6099A, p. 21-29 (March 2004) available at <http://www.atp.nist.gov/eao/ir-6099/nistir6099.pdf> (last visited May 7, 2007) (Exhibit EC-535).

⁴⁹² 15 C.F.R. § 295.6 (Exhibit EC-534).

⁴⁹³ NIST, *Measuring ATP Impact: 2006 Report on Economic Progress*, p. 13 (March 2007) available at www.atp.nist.gov/eao/gcr06-99.pdf (last visited May 7, 2007) (Exhibit US-149); ATP Proposal Preparation Kit, p. 5-7, 15-37 (April 2007) available at <http://www.atp.nist.gov/atp/apply.htm> (Exhibit US-157).

⁴⁹⁴ NIST, *Measuring ATP Impact: 2006 Report on Economic Progress*, p. 13 (March 2007) available at www.atp.nist.gov/eao/gcr06-99.pdf (last visited May 7, 2007) (Exhibit US-149).

⁴⁹⁵ 72 Fed. Reg. 17,838, 17,840 (April 10, 2007) (Exhibit US-158). The EC erroneously asserts there is no limit on the amount of ATP funding that joint ventures may receive. ECFWS, para. 778. In fact, the amount of funding available to joint ventures is limited by the amount of funding available to the ATP program in a given year. 72 Fed. Reg. at 17,839.

conducting their own projects must contribute at least 60 percent of the total project costs.⁴⁹⁶ ATP closely monitors the ongoing progress of the project and ensures that it maintains appropriate technical and financial oversight of the project.⁴⁹⁷

377. Every ATP cooperative agreement includes special award conditions that identify a Project Management Team (“PMT”). The PMT, which includes both a technical expert and a business expert, is responsible for monitoring the progress of the project and ensuring its consistency with the project proposal.

378. In addition, the ATP General Terms and Conditions require all award recipients to submit quarterly technical and business performance reports. The PMT reviews all such reports and tracks project developments on an ongoing basis. Specifically, the PMT continuously re-evaluates the progress of a project to determine how technological or industrial developments affect the project and to ensure that the project remains on course for a successful conclusion. In certain circumstances it may become necessary to modify a project’s technical plan in light of such developments. In such cases, the PMT ensures that modified plans remain consistent with the approved goals and objectives of the project proposal and equivalent to the original merit of the project with respect to the ATP selection criteria.⁴⁹⁸

B. The ATP Projects at Issue

379. Boeing (and McDonnell Douglas) have participated in eight ATP projects. In each of these projects, Boeing (or McDonnell Douglas) participated as a member of a consortium. At no time did Boeing receive ATP funding for a project on its own.

380. **Project 91-01-0267 PREAMP (Pre-Competitive Advanced Manufacturing of Electrical Products):** This project’s objective was to combine advanced capabilities in database management, knowledge engineering, and computing and communications into a fully-integrated, standards-based, data-sharing framework for concurrent engineering in the electronics industry.⁴⁹⁹ ATP provided approximately \$5.2 million in cost-sharing funds to the consortium carrying out the work under this project. The EC claims that \$0.86 million of this

⁴⁹⁶ 15 C.F.R. § 295.32(b) (Exhibit EC-534).

⁴⁹⁷ 15 C.F.R. § 295.1(b) (Exhibit EC-534).

⁴⁹⁸ NIST, *Measuring ATP Impact: 2006 Report on Economic Progress*, p. 12-13 (March 2007) available at www.atp.nist.gov/cao/gcr06-99.pdf (last visited May 7, 2007) (Exhibit US-149).

⁴⁹⁹ ATP Project Brief, Pre-Competitive Advanced Manufacturing of Electrical Products, available at <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=91-01-0267> (last visited May 8, 2007) (Exhibit US-159).

went to Boeing, a portion of which is attributable to large civil aircraft.⁵⁰⁰ In fact, Boeing received only an estimated [***] in ATP funding from this project.⁵⁰¹

381. Boeing's Defense & Space Group was a member of the PREAMP Consortium, which was led by the South Carolina Research Authority. Other consortium members included Hughes Aircraft Company (currently Raytheon Company), Martin Marietta Corporation, Electronics Information & Missiles Group (currently Lockheed Martin), and Rockwell International Corporation, Collins Avionics & Communication Division (currently Rockwell Collins Inc.). Rensselaer Polytechnic Institute and STEP Tools, Inc. were informal participants in the consortium.⁵⁰²

382. **Project 93-01-0089 (CVD Diamond-Coated Rotating Tools for Machining Advanced Composite Materials):** This project's goal was to extend the recently developed technology for coating tool cutting inserts with diamond films by chemical vapor deposition to the more difficult problem of coating rotating tools such as drills, end mills, routers, and taps.⁵⁰³ ATP provided approximately \$1.8 million in cost-sharing funds to the consortium carrying out the work under this project. The EC claims that \$0.30 million of this went to Boeing, a portion of which is attributable to large civil aircraft.⁵⁰⁴ In fact, the United States estimates that Boeing received [***] from its participation in this project.⁵⁰⁵

383. Boeing's Commercial Airplane Group was a member of the consortium, which was led by Crystallume. Other consortium members included the Ford Motor Company, V-Engine Manufacturing Engineering, General Motors Corporation, Technical Center, Raytheon Missile Systems and Kennametal.⁵⁰⁶

⁵⁰⁰ NASA/DOD/DOC Aeronautics R&D Subsidies to Boeing LCA Division at 22-24 (Exhibit EC-25). The percent that the EC allocates to the Boeing/McDonnell Douglas large civil aircraft division is estimated to be Boeing/McDonnell Douglas large civil aircraft and parts sales (non-engine) in a given year as a percent of total Boeing/McDonnell Douglas sales in that year. Exhibit EC-25 at 22, n. 2.

⁵⁰¹ ATP Funding for Projects in Which Boeing Participated (Exhibit US-160).

⁵⁰² ATP Project Brief, Pre-Competitive Advanced Manufacturing of Electrical Products, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=91-01-0267> (last visited May 8, 2007) (Exhibit US-159).

⁵⁰³ ATP Project Brief, CVD Diamond-Coated Rotating Tools for Machining Advanced Composite Materials, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=93-01-0089> (last visited May 8, 2007) (Exhibit US-161).

⁵⁰⁴ NASA/DOD/DOC Aeronautics R&D Subsidies to Boeing LCA Division at 22-24 (Exhibit EC-25).

⁵⁰⁵ ATP Funding for Projects in Which Boeing Participated (Exhibit US-160).

⁵⁰⁶ ATP Project Brief, CVD Diamond-Coated Rotating Tools for Machining Advanced Composite Materials, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=93-01-0089> (last visited May 8, 2007) (Exhibit US-161).

384. **Project 95-01-0108 (Precision Optoelectronics Assembly):** This project was designed to develop key technologies to enable fast, flexible automated assembly of optoelectronics systems. Boeing Information, Defense & Space Systems was a member of the Precision Optoelectronics Assembly Consortium, which was led by the National Center for Manufacturing Sciences. Other consortium members included Adept Technology, Inc., Multi-Lifecycle Engineering Research Center, New Jersey Institute of Technology, Focused Research, Inc., and Corning, Inc.⁵⁰⁷ ATP provided approximately \$4.9 million in cost-sharing funds to the consortium carrying out the work under this project. The EC claims that \$0.82 million of this went to Boeing, a portion of which is attributable to large civil aircraft.⁵⁰⁸ In fact, Boeing received [***] in ATP funding from this project.⁵⁰⁹

385. **Project 95-12-0024 (An Agent-Based Framework for Integrated Intelligent Planning – Execution):** This project's objective was to develop technologies for a plug-and-play framework of integrable business objects and software agents to enable agile manufacturing by making shop-floor status and capacity information available in real time throughout an enterprise.⁵¹⁰ ATP provided approximately \$11 million in cost-sharing funds to the consortium carrying out the work under this project. The EC claims that \$1.84 million of this went to Boeing/McDonnell Douglas, a portion of which is attributable to large civil aircraft.⁵¹¹ In fact, Boeing received only an estimated [***] in ATP funding from this project.⁵¹²

386. Boeing Integrated Defense Systems was a member of the consortium, which was led by IBM Software Solutions and Strategies. Other consortium members included Baan USA, Qad, Inc., Intercim Inc., and the EnVisionIt Software Corporation. The University of Florida, the University of Maryland at Baltimore, Department of Computer Science, the University of North Carolina at Charlotte, Department of Computer Science, Demand Solutions, GSE Process Solutions, and Hamilton Standard also participated informally in the consortium.⁵¹³

⁵⁰⁷ ATP Project Brief, Precision Optoelectronics Assembly, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=95-01-0108> (last visited May 8, 2007) (Exhibit US-162).

⁵⁰⁸ NASA/DOD/DOC Aeronautics R&D Subsidies to Boeing LCA Division at 22-24 (Exhibit EC-25).

⁵⁰⁹ ATP Funding for Projects in Which Boeing Participated (Exhibit US-461).

⁵¹⁰ ATP Project Brief, An Agent-Based Framework for Integrated Intelligent Planning – Execution, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=95-12-0024> (last visited May 8, 2007) (Exhibit US-464).

⁵¹¹ NASA/DOD/DOC Aeronautics R&D Subsidies to Boeing LCA Division at 22-24 (Exhibit EC-25).

⁵¹² ATP Funding for Projects in Which Boeing Participated (Exhibit US-160).

⁵¹³ ATP Project Brief, An Agent-Based Framework for Integrated Intelligent Planning – Execution, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=95-12-0024> (last visited May 8, 2007) (Exhibit US-163).

387. **Project 97-05-0020 (EECOMS - Extended Enterprise Coalition for Integrated Collaborative Manufacturing Systems):** This project was intended to develop a new framework for people, applications, and software agents to collaborate on supply chain logistics, resulting in faster delivery of products to customers, reduction of costly inventories, and an overall increase of U.S. manufacturers' competitiveness in the global marketplace.⁵¹⁴ ATP provided approximately \$14.7 million in cost-sharing funds to the consortium carrying out the work under this project. The EC claims that \$2.45 million of this went to Boeing, a portion of which is attributable to large civil aircraft.⁵¹⁵ In fact, Boeing received only [***] in ATP funding from this project.⁵¹⁶

388. Boeing Integrated Defense Systems was a member of the consortium, which was led by the IBM Corporation – EECOMS. Other consortium members included Baan Americas, Invensys Co., Scandura.com, IndX Software, Inc., and TRW, Inc. The University of North Carolina at Charlotte, the University of Maryland – Baltimore County, the University of Florida, Oracle, Norman May, and Lucent Technologies also participated informally in the consortium.⁵¹⁷

389. **Project 98-01-0168 (Hot Metal Gas Forming):** This project's goal was to develop materials, processes, and manufacturing technologies for hot metal gas forming, a new tubular-steel-forming process for the automotive industry that will be faster, less expensive, and more flexible than existing techniques.⁵¹⁸ ATP provided approximately \$3 million in cost-sharing funds to the consortium carrying out the work under this project. The EC claims that \$0.20 million of this went to Boeing, a portion of which is attributable to large civil aircraft.⁵¹⁹ In fact, the United States estimates that Boeing received [***] from its participation in this project.⁵²⁰

390. Boeing Commercial Aircraft was a member of the consortium, which was led by the Center for Automotive Research. Other consortium members included Atlas Technologies, Inc., Autodesk, Inc., the Daimler Chrysler Corporation, Erie Press Systems, the Ford Motor

⁵¹⁴ ATP Project Brief, EECOMS - Extended Enterprise Coalition for Integrated Collaborative Manufacturing Systems, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=97-05-0020> (last visited May 8, 2007) (Exhibit US-164).

⁵¹⁵ NASA/DOD/DOC Aeronautics R&D Subsidies to Boeing LCA Division, p. 22-24 (Exhibit EC-25).

⁵¹⁶ ATP Funding for Projects in Which Boeing Participated (Exhibit US-160).

⁵¹⁷ ATP Project Brief, EECOMS - Extended Enterprise Coalition for Integrated Collaborative Manufacturing Systems, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=97-05-0020> (last visited May 8, 2007) (Exhibit US-164).

⁵¹⁸ ATP Project Brief, Hot Metal Gas Forming, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=98-01-0168> (last visited May 8, 2007) (Exhibit US-165).

⁵¹⁹ NASA/DOD/DOC Aeronautics R&D Subsidies to Boeing LCA Division, pp. 22-24 (Exhibit EC-25).

⁵²⁰ ATP Funding for Projects in Which Boeing Participated (Exhibit US-160).

Corporation, Lamb Technicon, Sekely Industries, Inc., TOCCO, Wayne State University, Batelle Memorial Institute, Alcoa, LTV – Copperweld Corporation, and Temper Incorporated. The Industrial Technology Institute, Oak Ridge National Laboratory, and the ERIM Center for Electronic Commerce also participated informally in the consortium.⁵²¹

391. **Project 95-02-0036 (Plasma-Based Processing of Lightweight Materials for Motor-Vehicle Components and Manufacturing Applications):** This project's objective was to overcome the science and engineering barriers impeding the development of plasma-source ion implementation, which is a highly experimental technology with the potential to become a cost-effective tool for producing ultra-hard, wear-resistant surfaces on a wide variety of materials.⁵²² ATP provided approximately \$7.7 million in cost-sharing funds to the consortium carrying out the work under this project. The EC claims that \$0.51 million of this went to Boeing, a portion of which is attributable to large civil aircraft.⁵²³ In fact, Boeing received [***] from its participation in this project.⁵²⁴

392. Boeing was initially a member of the consortium, but terminated its involvement prior to completion of the project. Other consortium members included ABB High Power Semiconductors, A.O. Smith Corporation, Diversified Technologies, Inc., Empire Hard Chrome, Inc., General Motors R&D Center, Harley-Davidson Motor Company, IONEX; Black & Decker, Northrop Grumman, PVI, 4th State, Inc., DuPont, and North Central Coating Technologies.⁵²⁵

393. **Project 90-01-0126 (Solid-State Laser Technology For Point Source X-Ray Lithography):** This project was designed to develop a laser-diode-pumped laser system for generating x-rays in a new generation of lithography equipment to enable a major advance in the miniaturization of computer chips while reducing manufacturing costs. MD was a member of the consortium, along with Hampshire Instruments.⁵²⁶ ATP provided approximately \$1.1 million in cost-sharing funds to the consortium carrying out the work under this project. The

⁵²¹ ATP Project Brief, Hot Metal Gas Forming, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=98-01-0168> (last visited May 8, 2007) (Exhibit US-165).

⁵²² ATP Project Brief, Plasma-Based Processing of Lightweight Materials for Motor-Vehicle Components and Manufacturing Applications, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=95-02-0036> (last visited May 8, 2007) (Exhibit US-166).

⁵²³ NASA/DOD/DOC Aeronautics R&D Subsidies to Boeing LCA Division, pp. 22-24 (Exhibit EC-25).

⁵²⁴ ATP Funding for Projects in Which Boeing Participated (Exhibit US-160).

⁵²⁵ ATP Project Brief, Plasma-Based Processing of Lightweight Materials for Motor-Vehicle Components and Manufacturing Applications, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=95-02-0036> (last visited May 8, 2007) (Exhibit US-166).

⁵²⁶ ATP Project Brief, Solid-State Laser Technology For Point Source X-Ray Lithography, *available at* <http://jazz.nist.gov/atpcf/prjbriefs/prjbrief.cfm?ProjectNumber=90-01-0126> (last visited May 8, 2007) (Exhibit US-167).

EC claims that \$0.55 million of this went to Boeing/McDonnell Douglas and that a portion of this amount is attributable to large civil aircraft.⁵²⁷ In fact, McDonnell Douglas received [***] in ATP funding from this project.⁵²⁸

C. The ATP Funding Received by Boeing Does Not Constitute an Actionable Subsidy Under the SCM Agreement.

394. Contrary to the EC's claims, ATP is not a WTO-inconsistent subsidy within the meaning of the SCM Agreement. As demonstrated above, Boeing received a much smaller financial contribution from ATP funding than the EC claims. More importantly, the ATP financial contributions are not an actionable subsidy because they were not specific to Boeing. ATP is an extremely broad program that provides funding to a diverse array of industries and technology sectors. The authorizing legislation does not limit eligibility to certain enterprises, which means that it is not *de jure* specific pursuant to Article 2.1(a) of the SCM Agreement. Furthermore, ATP is also not *de facto* specific under Article 2.1(c).⁵²⁹

395. **Financial Contribution:** ATP provides a financial contribution to program participants by directly transferring funds. The EC claims that ATP has made a \$4.6 million financial contribution to Boeing through FY2004.⁵³⁰ The EC derived this estimate by taking the annual funding to Boeing and McDonnell Douglas from the 8 ATP consortia projects in which they participated and applying a portion equal to Boeing's non-engine large civil aircraft and parts sales as a percentage of total Boeing sales each year.⁵³¹ But in determining the financial contribution, it is more accurate to consider only the funding that Boeing actually received from

⁵²⁷ NASA/DOD/DOC Aeronautics R&D Subsidies to Boeing LCA Division, pp. 22-24 (Exhibit EC-25).

⁵²⁸ ATP Funding for Projects in Which Boeing Participated (Exhibit US-160).

⁵²⁹ The EC's assertion that the "US Government has, at least indirectly, acknowledged that ATP is a subsidy" is incorrect. ECFWS, para. 788. The EC has taken the language used by the United States out of context. The U.S. stated that "ATP support does *not* become a perpetual subsidy" in the context of explaining that ATP is a cost-sharing program with fixed funding allocation and completion dates. Exhibit EC-547, 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)(emphasis added). Clearly the United States was explaining that ATP is *not* a subsidy, rather than conceding that it is. The EC also points to statements in a Congressional Report and by the CATO Institute as evidence that ATP is a subsidy. It is clear that neither document reached that conclusion with reference to Articles 1 and 2. Indeed, the term "subsidy" has many meanings, some quite broad. For example, in a broad economic sense, any money conferred by government to a non-government entity may be considered a subsidy, even if it is not a financial contribution, does not confer a benefit, and is not specific. Therefore, the statements cited by the EC that ATP is a "subsidy" are of no relevance to the Panel's inquiry.

⁵³⁰ ECFWS, para. 799.

⁵³¹ ECFWS, para. 799 and n. 1420.

ATP. As such, the financial contribution from ATP funding that is properly attributable Boeing is only an estimated [***] – significantly less than the \$4.6 million that the EC claims.⁵³²

396. **Specificity:** ATP provides funding for innovative, high risk technologies across a wide range of industries and technology sectors. Given its extremely broad nature, ATP is not specific within the meaning of the SCM Agreement. It is not limited to a specific enterprise or industry, or group of enterprises or industries.

397. The distribution of projects that have received ATP funding illustrates the breadth of ATP. The 768 ATP projects include 168 in the field of advanced materials and chemicals, 190 in biotechnology, 167 pertaining to electronics, computer hardware, and communications, 156 in the information technology sector, and 87 pertaining to manufacturing of various types.⁵³³ Each of these sectors comprises multiple “industries” and “enterprises” in the sense of Article 2.1. For example, the manufacturing sector covers health care manufacturing such as digital radiology, photonics manufacturing, automobile manufacturing, and environmental technology manufacturing, among a host of other industries.

398. The total \$2.3 billion of ATP funding from 1990 to 2004 has been similarly broadly distributed: \$488 million has gone to projects in advanced materials and chemicals; \$449 million to biotechnology; \$576 million to electronics, computer hardware, and communications; \$504 million to information technology; and \$252 million to manufacturing.⁵³⁴

399. The EC argues that ATP is specific because it is limited by regulation to “those US companies that perform research into ‘high risk, high pay-off emerging and enabling technologies.’”⁵³⁵ Although the EC asserts that this is limited to a certain group of companies, including civil aircraft, in fact, numerous companies and other entities working in an extremely broad range of technologies have participated in ATP. The specific technologies funded by

⁵³² ATP Funding for Projects in Which Boeing Participated (Exhibit US-160). This is an estimated figure, which includes only partial funding information for Projects 91-01-0267 and 93-01-0089, which are so old that ATP no longer has complete files on them. The age of these projects raises a question regarding whether they should even be considered in calculating the benefit to Boeing. It is also difficult to forecast the total funding that Boeing received from these projects because in some instances, Boeing received no funding directly from ATP, even though it participated in the consortia. In any event, the EC claims that the funding to Boeing for Projects 91-01-0267 and 93-01-0089 was \$0.86 million and \$0.30 million respectively – only a portion of which is allocable to Boeing’s large civil aircraft division. NASA/DOD/DOC Aeronautics R&D Subsidies to Boeing LCA Division, pp. 22-24 (Exhibit EC-25). As such, the total benefit to Boeing from these projects must be limited to this amount. Moreover, even the [***] that the United States estimates as a benefit to Boeing is likely an overstatement of the true benefit to Boeing’s large civil aircraft division because for four of the projects – Projects 91-01-0267, 95-01-0108, 95-12-0024, and 97-05-0020 – the funding went to IDS or one of its predecessors, not to BCA.

⁵³³ 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-150).

⁵³⁴ ATP Awards Summary Data - Funding (Technology Area by Year), Factsheet 3.B2 (Sept. 2004) available at <http://www.atp.nist.gov/factsheets/3-b-2.pdf> (Exhibit US-168).

⁵³⁵ ECFWS, para. 803.

ATP include, among others, abrasives, adhesives, and ceramics, animal and plant biotechnology, automobile manufacturing, bioinformatics, catalysis and biocatalysis, computer systems and software applications, energy conversion, energy storage, environmental technologies, intelligent control, marine biology, materials handling, nanotechnology, optics and photonics, polymer synthesis and polymer fabrication, semiconductors, and separation technology.⁵³⁶

400. Even the consortia in which Boeing participated represent a wide range of industries and entities, further illustrating the breadth of ATP. For instance, other members of these consortia include automotive companies, such as Ford Motor Company and General Motors; software companies, such as Baan and IndX Software, Inc.; an aluminum company, namely Alcoa; a systems infrastructure and technology company, Lucent Technologies; and a broad array of universities, such as the University of North Carolina, the University of Florida, and Wayne State University.

401. Thus, ATP is not specific. The EC tries to obscure this truth by noting that the ATP statute refers to “solving generic problems of *specific industries* and on making *those industries* more competitive in world markets.”⁵³⁷ The EC, however, misconstrues the context of the word “specific” in the statute. As explained above, ATP awards are open to any industry sector for which an applicant makes a request that meets program criteria and for which funding is available. The use of the word “specific” in the ATP statute simply means that the program aims to solve problems specified by the industries seeking funding. Indeed, the ATP statute prohibits the program from “providing undue advantage to *specific companies*.”⁵³⁸ The more relevant language in the provision that the EC quotes is ATP’s focus on “solving generic problems.”⁵³⁹

402. ATP is also not *de facto* specific under Article 2.1(c) of the SCM Agreement because of its broad use across industry sectors and technology areas, as well as the manner in which discretion is exercised in granting ATP funds. As explained above, ATP applies strict selection criteria in a rigorous evaluation process that involves a peer-review competition to determine which proposals will receive funding. Peer reviewers are experts in their fields.

403. Furthermore, the ATP regulations provide detailed selection criteria for ATP projects. In particular, the regulations require that a proposed project have both “scientific and technological merit” and the “potential for broad-based economic benefits.” The regulations explain the selection criteria as follows:

⁵³⁶ ATP Funded Technologies, available at <<http://www.atp.nist.gov/atp/category.htm>> (last visited May 8, 2007) (Exhibit US-152).

⁵³⁷ ECFWS, para. 803 (citing ATP Statute at § 278n(b)(1)(B))(emphasis in original).

⁵³⁸ 15 U.S.C. § 278n(a) (Exhibit EC-532).

⁵³⁹ 15 U.S.C. § 278n(b)(1)(B) (Exhibit EC-532).

The evaluation criteria to be used in selecting any proposal for funding under this program, and their respective weights, are listed in this section. No proposal will be funded unless the Program determines that it has scientific and technological merit and that the proposed technology has strong potential for broad-based economic benefits to the nation. Additionally, no proposal will be funded that does not require Federal support, that is product development rather than high risk R&D, that does not display an appropriate level of commitment from the proposer, or does not have an adequate technical and commercialization plan.

(a) *Scientific and technological merit (50%)*. The proposed technology must be highly innovative. The research must be challenging, with high technical risk. It must be aimed at overcoming an important problem(s) or exploiting a promising opportunity. The technical leverage of the technology must be adequately explained. The research must have a strong potential for advancing the state of the art and contributing significantly to the U.S. scientific and technical knowledge base. The technical plan must be clear and concise, and must clearly identify the core innovation, the technical approach, major technical hurdles, the attendant risks, and clearly establish feasibility through adequately detailed plans linked to major technical barriers. The plan must address the questions of “what, how, where, when, why, and by whom” in substantial detail. The Program will assess the proposing team's relevant experience for pursuing the technical plan. The team carrying out the work must demonstrate a high level of scientific/technical expertise to conduct the R&D and have access to the necessary research facilities.

(b) *Potential for broad-based economic benefits (50%)*. The proposed technology must have a strong potential to generate substantial benefits to the nation that extend significantly beyond the direct returns to the proposing organization(s). The proposal must explain why ATP support is needed and what difference ATP funding is expected to make in terms of what will be accomplished with the ATP funding versus without it. The pathways to economic benefit must be described, including the proposer's plan for getting the technology into commercial use, as well as additional routes that might be taken to achieve broader diffusion of the technology. The proposal should identify the expected returns that the proposer expects to gain, as well as returns that are expected to accrue to others, *i.e.*, spillover effects. The Program will assess the proposer's relevant experience and

level of commitment to the project and project's organizational structure and management plan, including the extent to which participation by small businesses is encouraged and is a key component in a joint venture proposal, and for large company single proposers, the extent to which subcontractor/subrecipient teaming arrangements are featured and are a key component of the proposal.⁵⁴⁰

404. As the 2007 ATP Proposal Preparation Kit explains:

All proposals are selected based on a multi-stage peer-review process, as described in 15 C.F.R. § 295.4 (see Appendix B). All proposals are carefully reviewed by technical and business experts against the established ATP evaluation and selection criteria. A Source Evaluation Board reviews proposals and makes recommendations for funding to a Selecting Official based on the technical and business evaluations and the selection criteria. The Selection Official makes the final determination for funding. All funding decisions are final and cannot be appealed. NIST/ATP reserves the right to negotiate the cost and scope of the proposed work with the proposers who have been selected to receive awards. For example, NIST/ATP may require that the proposer delete from the scope of work a particular task that is deemed by NIST/ATP to be product development or otherwise inappropriate for ATP support.⁵⁴¹

405. In short, ATP is not specific within the meaning of the SCM Agreement because: (1) it applies to and is used by an extremely broad range of industries and technologies and is, by no means, limited to the civil aircraft industry; and (2) it has strict selection criteria that are applied in a peer-review process to determine the proposals that receive ATP awards. Accordingly, it is not an actionable subsidy.

⁵⁴⁰ 15 C.F.R. § 295.6 (Exhibit EC-534); ATP Proposal Preparation Kit, pp. 19-35 (April 2007), available at <http://www.atp.nist.gov/atp/apply.htm> (Exhibit US-157).

⁵⁴¹ ATP Proposal Preparation Kit, pp. 6-7 (April 2007) available at <http://www.atp.nist.gov/atp/apply.htm> (Exhibit US-157); 15 C.F.R. § 295.4 (Exhibit EC-534).

VIII. THE U.S. DEPARTMENT OF LABOR GRANT TO EDMONDS COMMUNITY COLLEGE WAS NOT A SUBSIDY TO BOEING.

406. The grant awarded to Edmonds Community College pursuant to a U.S. Department of Labor initiative known as the High Growth Job Training Initiative did not provide a subsidy to Boeing, as the EC alleges. Boeing did not benefit from the college's grant, nor was the grant specific under Article 2.1.

407. The High Growth Job Training Initiative was created to help workers take advantage of job opportunities in high growth, high demand, and economically vital sectors of the U.S. economy.⁵⁴² The initiative targets worker training and career development resources that enable workers to attain the necessary skills for careers in high growth industries. It applies to 14 different industry sectors that are considered growth sectors or are existing industry sectors that will require new skill sets for workers because of technological developments or industries that are considered transforming or emerging. In addition to aerospace, the broad industry sectors covered by the initiative are advanced manufacturing, automotives, biotechnology, construction, energy, financial services, geospatial technology, health care, homeland security, hospitality, information technology, retail, and transportation.⁵⁴³

408. The initiative seeks to achieve four major outcomes. First, it seeks to ensure the development of workers' skills in occupations where industry has identified particular needs, in part by supporting public and private sector partnerships. Second, it hopes to meet the skills training needs of high growth industries by further integrating community and technical college efforts with business and public workforce activities. Third, it aims to provide better opportunities for employers to use apprenticeship training as a skills development methodology by combining on-the-job training with academics to ensure a pipeline of skilled workers. Finally, it seeks to provide workers with career enhancing opportunities in high growth occupations.⁵⁴⁴

409. Pursuant to the High Growth Job Training Initiative, the Department of Labor has awarded 156 grants totaling over \$288 million to a wide range of entities across the United States in the 14 broad industry sectors covered by the initiative.⁵⁴⁵ These entities include state

⁵⁴² The President's High Growth Job Training Initiative Website, *available at* <http://www.doleta.gov/BRG/JobTrainInitiative/#InitiativeOutcomes> (last visited June 14, 2007) (Exhibit US-169).

⁵⁴³ The President's High Growth Job Training Initiative Website, *available at* <http://www.doleta.gov/BRG/JobTrainInitiative/#InitiativeOutcomes> (last visited June 14, 2007) (Exhibit US-169).

⁵⁴⁴ The President's High Growth Job Training Initiative Fact Sheet (Exhibit US-170).

⁵⁴⁵ High Growth Job Training Initiative Grantee List, *available at* http://www.doleta.gov/BRG/HGJTIGrantees/eta_default.cfm?attribute=by_industry&category=9,3,4,2,11,5,14,6,1,7,8,12,10,15 (last visited June 14, 2007) (Exhibit US-171); Department of Labor News Release, "U.S. Secretary of Labor announces \$3 million in grants to six organizations for long-term care training," June 26, 2007 *available at* <http://www.dol.gov/opa/media/press/eta/eta20070910.htm> (Exhibit US-172); 72 Fed. Reg. 7680 (Feb. 16, 2007)

and local workforce investment systems; community colleges; health care associations and organizations; trade groups in industries such as geospatial information and technology, nanotechnology, manufacturing, automotives, and construction; and state and local labor, employment, and community development agencies, among others.⁵⁴⁶ The projects funded by the grants cover an even more diverse array of topics, such as literacy, building arts, long-term care workforce challenges, hospice care, mine training, supply chain logistics, training individuals with disabilities for employment in the financial services sector, biotechnology workforce development, machine shop skills training, food and beverage manufacturing, and integrated systems technology, to name just a few.⁵⁴⁷

410. Of the many grants awarded under the High Growth Job Training Initiative, Edmonds Community College in the State of Washington received a grant in the amount of \$1,475,045 to “develop {a} standard advanced-manufacturing, high technology curriculum for aerospace training opportunities for technicians in Snohomish County, Washington.”⁵⁴⁸ For this project, called the “Triad Initiative,” Edmonds Community College partnered with other entities including Everett Community College, the Snohomish Workforce Development Council, the Snohomish Economic Development Council, Boeing, and other Snohomish County aerospace manufacturing supplier industries.⁵⁴⁹

411. Edmonds Community College is using its grant for curriculum development, not worker training. Although the college’s initial proposal contained a training component, its grant funds are *not* being used for a worker training program, let alone a program to “fund a portion of Boeing’s costs of training current and future workers for development and production of the Boeing 787,” as the EC contends.⁵⁵⁰ Instead, the grant funding is for the development of a manufacturing curriculum for aerospace and related industries, including biomedical, marine

⁵⁴⁵(...continued)

(Exhibit US-173).

⁵⁴⁶ High Growth Job Training Initiative Grantee List, *available at* http://www.doleta.gov/BRG/HGJTIGrantees/eta_default.cfm?attribute=by_industry&category=9,3,4,2,11,5,14,6,1,7,8,12,10,15 (last visited June 14, 2007) (Exhibit US-171).

⁵⁴⁷ High Growth Job Training Initiative Grantee List, *available at* http://www.doleta.gov/BRG/HGJTIGrantees/eta_default.cfm?attribute=by_industry&category=9,3,4,2,11,5,14,6,1,7,8,12,10,15 (last visited June 14, 2007) (Exhibit US-171).

⁵⁴⁸ The President’s High Growth Job Training Initiative, The Triad Initiative Fact Sheet (Exhibit EC-619).

⁵⁴⁹ The President’s High Growth Job Training Initiative, The Triad Initiative Fact Sheet (Exhibit EC-619).

⁵⁵⁰ ECFWS, para. 902. The EC relies on a U.S. Department of Labor press release, which states that the grant will be used “to train workers for careers in the aerospace industry.” Exhibit EC-618. Further down, the press release clarifies that this means the “development of curricula” and “training models,” rather than actual worker training. Exhibit EC-618. Moreover, many other documents pertaining to this grant make clear that it involves the development of curricula, not worker training.

biology, and construction.⁵⁵¹ More specifically, according to the “Statement of Work” in the grant notification to Edmonds Community College, the objective of the project is to “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.”⁵⁵² The project’s “Work Plan” further explains that it will seek to meet “industry demand for *curriculum* to provide workers skilled in the use of composite materials and advanced manufacturing processes.”⁵⁵³

412. The Work Plan includes “curriculum development activities” that focus on both curriculum structure and curriculum content and skills areas. The curriculum structure will include applying “advanced theories of cognition and learning to optimize and accelerate the learning process” and “making use of a variety of flexible delivery methodologies including online and hybrid models.” The curriculum content will include advanced materials, computer aided design, and systems integration, including enterprise teaming and manufacturing economics. The project’s deliverables include “a systems level curriculum roadmap with supporting course materials” in the topics mentioned above, “materials 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.⁵⁵⁴ Nowhere do the project deliverables mention any worker training programs, let alone training of Boeing’s employees.

413. **Financial Contribution:** The entire amount of the grant – \$1,475,045⁵⁵⁵ – constitutes a financial contribution, but not to Boeing’s 787 program, as the EC contends,⁵⁵⁶ because it was awarded to Edmonds Community College and not Boeing.

414. **Benefit:** Boeing received no benefit from the Department of Labor grant because not only was the grant given to Edmonds Community College, rather than to Boeing,⁵⁵⁷ it was not used to provide training to Boeing employees. As the Statement of Work makes clear, Edmonds Community College “will serve as the grant recipient and administrative entity for this initiative.”⁵⁵⁸

⁵⁵¹ The President’s High Growth Job Training Initiative, The Triad Initiative Fact Sheet (Exhibit EC-619).

⁵⁵² Statement of Work for Edmonds Community College Grant Notification at § 2(a) (Exhibit EC-622).

⁵⁵³ Statement of Work for Edmonds Community College Grant Notification at § 6(a) (emphasis added) (Exhibit EC-622).

⁵⁵⁴ Statement of Work for Edmonds Community College Grant Notification at § 6(a) (Exhibit EC-622).

⁵⁵⁵ The President’s High Growth Job Training Initiative, The Triad Initiative Fact Sheet (Exhibit EC-619).

⁵⁵⁶ ECFWS, para. 911.

⁵⁵⁷ The President’s High Growth Job Training Initiative, The Triad Initiative Fact Sheet (Exhibit EC-619).

⁵⁵⁸ Statement of Work for Edmonds Community College Grant at § 6 (Exhibit EC-620).

415. Furthermore, as explained above, the grant was for the development of a manufacturing curriculum for aerospace and other industries.⁵⁵⁹ The funding was not used for a worker training program to enable Boeing’s employees to build the 787. The EC notes that the Statement of Work includes language about the “training effort” for the “development of the workforce necessary for aerospace manufacturers in building the Boeing 7E7.”⁵⁶⁰ But as explained above, although the initial proposal by Edmonds Community College contained a training component, the college did not in fact use the grant for worker training.⁵⁶¹ Rather, it applied this funding to the development of a curriculum for a Composite Repair Technician Certificate, Product Lifecycle Management, and Global Teaming. This curriculum development provides no benefit to Boeing; Boeing is receiving nothing from the grant on non-market terms.

416. The EC’s portrayal of the grant to Edmonds Community College as “worker training grants” that “relate explicitly to training 787 workers”⁵⁶² is inaccurate. For instance, the EC claims that the Statement of Work for the grant provides that the “initiative will train Boeing workers to handle composite materials for use on the 787.”⁵⁶³ In fact, the Statement of Work is merely listing technical challenges that require training, using composites as an example, and the 7E7 as one type of composite product; it does not state that the grant funding will be used to provide training in composites.⁵⁶⁴ The EC also mentions a facility called the Material and Process Development Center, which it states will “establish a prototype learning laboratory” in collaboration with Boeing that “will be interconnected with the Boeing facility.”⁵⁶⁵ This Center, which already exists, is only referenced in the Statement of Work as an example of how the Triad Initiative partners “are working to provide training to address other identified manufacturing industry competency gaps.”⁵⁶⁶ The Center, the prototype learning laboratory, and any training provided in this laboratory are not being funded by the grant.

⁵⁵⁹ The President’s High Growth Job Training Initiative, The Triad Initiative Fact Sheet (Exhibit EC-619).

⁵⁶⁰ ECFWS, para. 904.

⁵⁶¹ The EC’s failure to understand the purpose and use of the grant 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. Statement of Work for Edmonds Community College Grant, p. cover page (Exhibit EC-620).

⁵⁶² ECFWS, para. 914.

⁵⁶³ ECFWS, para. 904.

⁵⁶⁴ Statement of Work for Edmonds Community College Grant at § 3(a) (Exhibit EC-620). Specifically, the Statement of Work explains that technological innovations have created a need “for workers skilled in the application of advanced technologies.” It goes on to say, “{w}ith these changes come new technical and interpersonal challenges for workers: **Advanced Materials**: Composite materials offer unique advantages over metallic structures, such as superior strength/weight ratios and improved corrosion resistance. Projected demand is growing rapidly, as exemplified by Boeing’s new 7E7 aircraft that will have up to 70% of its structural weight represented by composites.”

⁵⁶⁵ ECFWS, paras. 906-907.

⁵⁶⁶ Statement of Work for Edmonds Community College Grant at § 6(a) (Exhibit EC-620).

417. **Specificity:** The Department of Labor grants awarded pursuant to the High Growth Job Training Initiative are not specific under Article 2.1. To begin, they are not specific within the meaning of Article 2.1(a) because they are not explicitly limited to “certain enterprises.” Rather, these grants are broadly available across 14 diverse industry sectors that cover a significant portion of the U.S. economy, such as health care, financial services, information technology, energy, manufacturing, retail, and transportation.⁵⁶⁷ Within these sectors, the grants may be used for a variety of purposes across many sub-sectors. The grants are in no way *de jure* specific to either Boeing or the aerospace industry.

418. Grants under the High Growth Job Training Initiative are also not *de facto* specific under Article 2.1(c). Contrary to the EC’s claim, the grants are not “targeted at the aerospace industry,”⁵⁶⁸ but distributed across 14 different industry sectors. In fact, aerospace has received far fewer grants under the High Growth Job Training Initiative than other industries, like health care, which has almost 30 grants compared to the seven for aerospace.⁵⁶⁹ The diverse grant recipients and project topics further prove the non-specific nature of the Department of Labor grant initiative. Grant recipients include the Alabama Department of Economic and Community Affairs, the American Health Care Association Foundation, the Carpenters Joint Apprenticeship Program, Clafin University, the Geospatial Information and Technology Association, the International Association of Jewish Vocational Services, the National Association of Manufacturers, and the Texas Workforce Commission, to name just a few.⁵⁷⁰ Among the topics funded by the grants are building arts, long-term care, mine training, supply chain logistics, training individuals with disabilities to work in financial services, biotechnology workforce development, and food and beverage manufacturing, and integrated systems technology.⁵⁷¹

419. The grant to Edmonds Community College further demonstrates that the Department of Labor grant initiative is not *de facto* specific. With its grant funding, Edmonds Community College developed a curriculum in composites, lean manufacturing processes, and product lifecycle management software. Skills related to these subject areas are used in many manufacturing industries, including the marine, biomedical, construction, and consumer goods industries – not just aerospace. As such, the curriculum developed by Edmonds Community

⁵⁶⁷ The President’s High Growth Job Training Initiative Fact Sheet (Exhibit US-170).

⁵⁶⁸ ECFWS, paras. 919.

⁵⁶⁹ High Growth Job Training Initiative Grantee List, available at http://www.doleta.gov/BRG/HGJTIGrantees/eta_default.cfm?attribute=by_industry&category=9,3,4,2,11,5,14,6,1,7,8,12,10,15 (last visited June 14, 2007) (Exhibit US-171).

⁵⁷⁰ High Growth Job Training Initiative Grantee List, available at http://www.doleta.gov/BRG/HGJTIGrantees/eta_default.cfm?attribute=by_industry&category=9,3,4,2,11,5,14,6,1,7,8,12,10,15 (last visited June 14, 2007) (Exhibit US-171).

⁵⁷¹ High Growth Job Training Initiative Grantee List, available at http://www.doleta.gov/BRG/HGJTIGrantees/eta_default.cfm?attribute=by_industry&category=9,3,4,2,11,5,14,6,1,7,8,12,10,15 (last visited June 14, 2007) (Exhibit US-171).

College cuts across a wide range of manufacturing and is in no way limited to the aerospace sector.⁵⁷²

420. The Department of Labor has also recognized that the grant to Edmonds Community College is not specific to the aerospace industry or Boeing. In describing that grant, the Department of Labor explained:

{t}he applications of these training models will also support manufacturers in the marine industry, biomedical industry, and the construction industry. All of these efforts support a regional, cluster-based integrated economic and workforce development strategy in Washington State’s aerospace and advanced manufacturing sectors.⁵⁷³

421. In applying for the grant, Edmonds Community College too understood the potentially broad application of the grant. It explained that, “{t}he potential users of Triad Initiative findings include education, industry, and the public workforce investment system.”⁵⁷⁴ Education will be interested in the “use of hybrid curriculum to provide instruction in advanced manufacturing.” Industry will find value in the integration of industry skills standards into the curriculum and the “scenario-based instruction that produces authentic assessment work products as well as the transferability of skills learned to employment.” And, the public workforce system cares about the “efficacy of utilizing that system for the provision of enhanced outreach, assessment, and job placement services as well as the system’s potential ongoing infrastructure and development and integration of workforce investment with economic development.”⁵⁷⁵ With such broad applicability, the grant to Edmonds Community College is not *de facto* specific.

⁵⁷² The EC cites an excerpt in the Statement of Work regarding an aging workforce in the aerospace sector as evidence that the Department of Labor grant “will be used to meet Boeing’s particular needs.” ECFWS, para. 919. But, this excerpt merely recounts one of the problems facing the manufacturing sector. Nowhere does the Statement of Work provide that the grant to Edmonds Community College will train younger workers to replace any Boeing employees that may retire.

⁵⁷³ The President’s High Growth Job Training Initiative, The Triad Initiative Fact Sheet (Exhibit EC-619).

⁵⁷⁴ Statement of Work for Edmonds Community College Grant at § 10 (Exhibit EC-620).

⁵⁷⁵ Statement of Work for Edmonds Community College Grant at § 10 (Exhibit EC-620).

IX. FSC/ETI IS A SUBSIDY, BUT BOEING HAS STATED THAT IT WILL NOT CLAIM BENEFITS FROM THIS SUBSIDY AFTER 2006.

422. The United States does not dispute that FSC/ETI benefits are a financial contribution that confers a benefit, and is specific, nor do we contest the EC estimate of FSC/ETI benefits related to large civil aircraft during the 1989 to 2006 period.⁵⁷⁶

423. We do, however, dispute the EC's assertion that Boeing "will continue to receive certain FSC/ETI benefits after 2006."⁵⁷⁷ Boeing's 2006 annual report stated the amount of tax reduction Boeing realized as a result of FSC and ETI, and stated:

On May 17, 2006, the Tax Increase Prevention and Reconciliation Act of 2005 was enacted, which repealed the FSC/ETI exclusion tax benefit binding contract provisions of the American Jobs Creation Act of 2004. Therefore, 2006 will be the final year for recognizing any export tax benefits. The 2006 effective tax rate was reduced by 5.8% due to export tax benefits.⁵⁷⁸

424. This report was audited by Boeing's independent auditors.⁵⁷⁹ The company's chief executive officer and chief financial officer filed certifications with the U.S. Securities and Exchange Commission required under section 302 of the Sarbanes-Oxley Act, attesting:

(2) based on the officer's knowledge, the report does not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which such statements were made, not misleading;

(3) based on such officer's knowledge, the financial statements, and other financial information included in the report, fairly present in all material respects the financial condition and results

⁵⁷⁶ FSC/ETI Benefits Provided to U.S. Large Civil Aircraft Producers, Table 1. We do not agree with all aspects of the EC calculation, but the EC's estimate is sufficient for purposes of Article 6, given that the general magnitude of a subsidy, and not its precise percentage incidence, is the focus of the analysis under that article. *US – Cotton Subsidies (AB)*, para. 464 (“{U}nder Part III, the remedy envisaged under Article 7.8 of the *SCM Agreement* is the withdrawal of the subsidy or the removal of the adverse effects. This remedy is not specific to individual companies. Rather, it targets the effects of the subsidy more generally. Article 6.3(c) thus goes in the same vein and does not require a precise quantification of the subsidies at issue.”).

⁵⁷⁷ ECFWS, para. 944.

⁵⁷⁸ Boeing Annual Report, p. 55 (2006) (Exhibit US-126).

⁵⁷⁹ Boeing Annual Report, p. 81 (2006) (Exhibit US-126).

of operations of the issuer as of, and for, the periods presented in the report.⁵⁸⁰

425. The EC has presented *no* reason to disbelieve these certified statements by Boeing's officers. Therefore, the Panel should conclude that Boeing ceased receiving FSC/ETI benefits as of December 31, 2006. Accordingly, with regard to any claims of threat of serious prejudice, FSC/ETI benefits should not enter into the analysis. As the EC's sole claim with regard to FSC/ETI in this dispute is that it provided a subsidy to Boeing's production and development of large civil aircraft, there is no need for the panel to make any finding with regard to application of FSC/ETI in any other sectors.

⁵⁸⁰ 15 U.S.C. § 7241(a) (Exhibit US-174).

X. THE WASHINGTON STATE TAX MEASURES

426. The State of Washington is a major center for aerospace development and production. However, for many years prior to 2007, aerospace manufacturing activities faced one of the highest effective tax rates in the State of Washington. The State sought to alleviate their concerns by enacting an aerospace tax package, the most significant component of which is a reduction in the tax rate of Washington’s Business and Occupation (“B&O”) tax for certain aerospace manufacturing activities. The EC claims that this B&O tax rate reduction for aerospace manufacturing activities provides a WTO-inconsistent subsidy to Boeing. The B&O tax rate reduction served to bring the aerospace manufacturing effective tax rate closer to (but still higher than) the average effective tax rate of other business activities in the State. It does not provide a subsidy at all, let alone to Boeing.

427. The EC also claims that certain other Washington state and local tax measures are subsidies that are inconsistent with the SCM Agreement – B&O tax credits, certain sales and use tax exemptions, leasehold excise tax exemptions, property tax exemptions, and a local B&O tax rate reduction. A separate and careful analysis of each of these tax measures shows that most of the tax measures alleged by the EC are not subsidies at all, and those that are subsidies are either not actionable or are small.⁵⁸¹ In some cases, for instance, the tax measures are not specific to Boeing. In other cases, Boeing has not and will not use the tax measures at issue because they are tied to events, such as the building of a new Boeing manufacturing facility for the 787, that did not and will not occur. Before explaining why each of the tax measures at issue is not a WTO-inconsistent subsidy, a brief explanation of the State of Washington’s tax system provides useful context.

A. Background on The State of Washington’s Tax System

428. Alone among U.S. states, the State of Washington relies on a B&O tax for purposes of business taxation.⁵⁸² This tax has a long history in the State of Washington, dating back to the Revenue Act of 1935, when it was first established.⁵⁸³ The B&O tax is an excise tax on “gross receipts.” The term “gross receipts” refers to the gross proceeds of sales, the gross income of a business, or the value of products, whichever is applicable in a given case.⁵⁸⁴ The tax is imposed on the gross receipts of all sales, not just retail sales. No deductions are permitted for the costs of doing business, such as expenses for raw materials, wages paid to employees, or component parts manufactured by others, and no consideration is given to profitability.

⁵⁸¹ In Section XVI below, the United States demonstrates that these small subsidies do not cause adverse effects.

⁵⁸² Washington’s Tax System presented by the Department of Revenue, p. 8 (Exhibit US-175).

⁵⁸³ In response to escalating demands for public services, the Legislature also enacted a retail sales and use tax.

⁵⁸⁴ RCW 82.04.220 (Exhibit US-176); Washington’s Tax System presented by the Department of Revenue, p. 8 (Exhibit US-175).

429. The B&O tax applies to categories of business activities, rather than categories of income or categories of taxpayers, and the tax rate varies depending on the type of business activity. In other words, business taxpayers (whether for-profit, non-profit, or another type of organization⁵⁸⁵) are taxed on the basis of the activities in which they engage, such as manufacturing, wholesaling, and retailing, in the State of Washington. As a result, a taxpayer may face more than one B&O tax rate because different activities in which a taxpayer may engage may be taxed at different rates. For example, if a manufacturer produces a good in the State and sells it at wholesale to another firm in the State, in addition to reporting under the manufacturing tax, the manufacturer is also taxed on that sale under the wholesaling classification. But if the same manufacturer sells the same good to a firm located outside the State, the manufacturer is taxed only under the manufacturing classification because sales of goods delivered outside the State are not subject to Washington's selling tax. The only activity subject to Washington's B&O tax in this example is the manufacturing activity, because that is all that occurs in Washington.

430. In its early years, the B&O tax rate was 0.25 percent for all business activities except services (which were taxed at 0.50 percent). Over time, State legislators created a number of specialized tax rates for various categories of business activities. Currently, the four major activity classifications and tax rates are: (1) manufacturing (0.484 percent); (2) wholesaling (0.484 percent); (3) retailing (0.471 percent); and (4) services (1.5 percent).⁵⁸⁶

431. In addition to these four broad classifications, business activities are further subdivided into numerous individual categories for specific tax treatment, either by way of modified tax rates or through the differential availability of exemptions, deductions, or credits. The current tax rates⁵⁸⁷ for 36 categories of various business activities are as follows:

1. child care (0.484 percent)
2. commissions of insurance agents and brokers (0.484 percent)
3. disposal of low-level radioactive waste (3.3 percent)
4. environmental clean-up (0.471 percent)
5. extracting (0.484 percent)
6. extracting and processing for hire (0.484 percent)
7. freight brokers (0.275 percent)
8. government contracting (0.484 percent)
9. income derived from royalties (0.484 percent)
10. international investment management services (0.275 percent)
11. licensed boarding homes (0.275 percent)
12. manufacturing (0.484 percent)

⁵⁸⁵ RCW 82.04.030 (Exhibit US-177).

⁵⁸⁶ Washington State Department of Revenue Business & Occupation Tax, p. 1-2 (Exhibit US-178). The only business activities not subject to the B&O tax are agricultural production and the rental of real estate.

⁵⁸⁷ Business and Occupation Tax, RCW 82.04, p. 1 (Exhibit US-179).

13. manufacturing biodiesel/alcohol fuel (0.138 percent)
14. manufacturing fresh fruit, vegetables, and dairy products (exempt)⁵⁸⁸
15. manufacturing of semiconductor materials (0.275 percent)
16. manufacturing or selling commercial aircraft and components (0.4235 percent⁵⁸⁹)
17. manufacturing wheat into flour and raw seafood (0.138 percent)
18. printing and publishing (0.484 percent)
19. processing meat (at wholesale) (0.138 percent)
20. processing soybeans, canola, and dry peas (0.138 percent)
21. public or non-profit hospitals (1.5 percent)
22. public road construction (0.484 percent)
23. radio and television broadcasting (0.484 percent)
24. radioactive waste clean-up for the U.S. government (0.471 percent)
25. repair of aircraft (0.275 percent)
26. retailing (0.471 percent)
27. retailing of interstate transportation equipment (0.484 percent)
28. services (1.5 percent)
29. stevedoring (0.275 percent)
30. tour operators (0.275 percent)
31. travel agents (0.275 percent)
32. treatment of chemical dependencies (0.484 percent)
33. warehousing (0.484 percent)
34. warehousing or reselling of prescription drugs (0.138 percent)
35. wholesaling (0.484 percent)
36. all other activities (1.5 percent)

432. The State of Washington relies heavily on the B&O tax to raise revenue because it taxes neither corporate nor personal income. In fact, the B&O tax generates a significantly larger portion of total tax revenues than do corporate income taxes in other states. Whereas corporate income taxes in other states produce, on average, 4.2 percent of state tax revenues, the Washington B&O tax accounts for approximately 17 percent of state tax revenues.⁵⁹⁰ Moreover, business taxpayers pay a relatively large share of the retail sales tax for supplies and non-manufacturing equipment. The result is that the State of Washington is a relatively expensive place to do business in comparison to other U.S. states.

433. A recent study of the State's tax system concluded that "high business tax burdens reduce the economic vitality of the state, discourage firms from locating their operations here,

⁵⁸⁸ The former rate was 0.138 percent, but this activity became exempt from the B&O tax as of July 1, 2006.

⁵⁸⁹ This rate will be 0.2904 percent from July 1, 2007 to July 1, 2024.

⁵⁹⁰ Washington State Tax Structure Study 2002, Volume 1, p. 112 (Exhibit US-180); Business and Occupation Tax RCW 82.04, p. 3 (Exhibit US-179).

and invite firms already located in the State of Washington to consider other locations.”⁵⁹¹ The study involved a recommendation that Washington State substitute a VAT for the B&O tax to eliminate pyramiding⁵⁹² – a problem that results because goods and services that are inputs into higher stages of production are taxed multiple times as they move through the production chain⁵⁹³ – and consequently increase the neutrality of business tax burdens. Despite this study’s recommendation, as well as the recommendations of several prior studies, Washington has chosen to maintain the B&O tax as its primary tool for raising revenue from business activities.

434. The State of Washington has acknowledged the B&O tax’s disadvantages, including pyramiding and its relatively heavy burden on business. Yet Washington has decided that the many advantages of the tax, such as its efficiency, simplicity, predictability, stability, and ease of administration,⁵⁹⁴ outweigh these drawbacks. In the absence of an overhaul, the State periodically adjusts sectoral rates to minimize B&O tax burdens on different businesses.

B. The Measures At Issue Are Not Subsidies to Boeing.

435. The EC contests six tax measures enacted by the State of Washington and its localities as WTO-inconsistent subsidies. These measures are: (1) B&O tax rate reductions, (2) B&O tax credits for preproduction development, computer software and hardware, and property taxes, (3) sales and use tax exemptions for computers and construction and equipment, (4) leasehold excise tax exemptions, (5) property tax exemptions, and (6) the City of Everett B&O tax rate reductions. The first five tax measures at issue were enacted by the Washington State Legislature in House Bill 2294 (“HB 2294”), which became effective in December 2003.⁵⁹⁵ The last tax measure was enacted by the City of Everett, Washington, pursuant to Ordinance 2759-04, which was passed in March 2004 and became effective on January 1, 2006.⁵⁹⁶ Despite the EC’s efforts to obscure the relevant issues as to each of these tax measures, when properly analyzed, it is clear that they are not subsidies.

⁵⁹¹ Washington State Tax Structure Study 2002, Volume 1, p. 52 (Exhibit US-180).

⁵⁹² Section B(1)(b) below provides a more detailed explanation of pyramiding.

⁵⁹³ Washington State Tax Structure Study 2002, Volume 1, p. 110 (Exhibit US-180).

⁵⁹⁴ Washington’s Tax System presented by the Department of Revenue, p. 20 (Exhibit US-175).

⁵⁹⁵ HB 2294 (Exhibit EC-54). The EC alleges that the Project Olympus Master Site Agreement requires the State of Washington to extend each of these tax incentives to Boeing. ECFWS, paras. 89-90, 107, 111, 113, 115, 119, 121, 124, and 128. But, it is important to note that it is HB 2294 itself, and not the Master Site Agreement, that is the piece of legislation that enacts these tax incentives. The Master Site Agreement merely contains guidance on the application of this legislation to Boeing.

⁵⁹⁶ City of Everett Ordinance 2759-04 (Exhibit EC-61).

1. **B&O tax reduction**

436. The State of Washington has enacted legislation to reduce the B&O tax rate for certain aerospace manufacturing activities. The EC assumes that simply because the State chose to lower the B&O tax rate for aerospace manufacturing that it is providing a subsidy to Boeing. In fact, Washington applies the activities-based B&O tax in a manner that seeks to minimize the negative effects on various types of businesses – not simply aerospace manufacturing. In applying the B&O tax rate, the State takes into account the fact that certain business activities are subject to higher effective tax rates than other activities because the nominal B&O tax rate “pyramids” – i.e. goods are taxed at each stage in the production process, which means that more complex production has higher effective tax rates. Aerospace manufacturing activities have one of the highest effective tax rates in the State of Washington. By reducing the B&O tax rate for this sector, Washington is rendering less unequal the effective tax rate for aerospace manufacturing with that of other business activities in the State. It is not giving a subsidy to aerospace manufacturing, let alone to Boeing.

437. The B&O tax rate reduction for the manufacture of commercial airplanes and commercial airplane components and the sales thereof is set forth in HB 2294. This legislation provides, in relevant part:

(13)(a) Beginning October 1, 2005, upon every person engaging within this state in the business of manufacturing commercial airplanes, or components of such airplanes, as to such persons the amount of tax with respect to such business shall, in the case of manufacturers, be equal to the value of the product manufactured, or in the case of processors for hire, be equal to the gross income of the business, multiplied by the rate of:

(i) 0.4235 percent from October 1, 2005, through the later of June 30, 2007, or the day preceding the date final assembly of a superefficient airplane begins in Washington state, as determined under section 17 of this act; and

(ii) 0.2904 percent beginning on the later of July 1, 2007, or the date final assembly of a superefficient airplane begins in Washington state, as determined under section 17 of this act.

(b) Beginning October 1, 2005, upon every person engaging within this state in the business of making sales, at retail or wholesale, of commercial airplanes, or components of such airplanes, manufactured by that person, as to such persons the amount of tax with respect to such business shall be equal to the gross proceeds of sales of the airplanes or components multiplied by the rate of:

(i) 0.4235 percent from October 1, 2005, through the later of June 30, 2007, or the day preceding the date final assembly of a superefficient airplane begins in Washington state, as determined under section 17 of this act; and

(ii) 0.2904 percent beginning on the later of July 1, 2007, or the date final assembly of a superefficient airplane begins in Washington state, as determined under section 17 of this act.

* * * * *

(e) This subsection (13) does not apply after the earlier of: July 1, 2024; or December 31, 2007, if assembly of a superefficient airplane does not begin by December 31, 2007, as determined under section 17 of this act.⁵⁹⁷

438. In other words, HB 2294 reduces the B&O tax rate on the value or sales of commercial airplanes or airplane components⁵⁹⁸ produced in the State of Washington.⁵⁹⁹ The tax rate reduction occurs in two stages. The tax rate was lowered from 0.484 percent to 0.4235 percent on October 1, 2005. It was further lowered to 0.2904 percent on the later of July 1, 2007, or the date final assembly of a superefficient airplane⁶⁰⁰ began in the state, which reduced the rate by two-fifths. If final assembly had not begun by December 31, 2007, however, the tax rate would revert to 0.484 percent for manufacturing and wholesaling and 0.471 percent for retailing. Thus, while the tax rate reduction applies to all manufacturing and sales of commercial airplanes and components in the State of Washington, the second stage of reduction was contingent upon some entity in the State beginning the assembly of superefficient airplane by the end of 2007.

439. The EC asserts that the B&O tax rate reduction constitutes a WTO-inconsistent subsidy to Boeing.⁶⁰¹ The EC, however, has failed to satisfy its burden of proof.

⁵⁹⁷ HB 2294 § 3(13) (Exhibit EC-54); RCW 82.04.260(11) (Exhibit US-181).

⁵⁹⁸ “Commercial airplane” is defined as having “its ordinary meaning, which is an airplane certified by the federal aviation administration for transporting persons or property, and any military derivative of such an airplane.” HB 2294 § 17(2)(a) (Exhibit EC-54); RCW 82.32.550 (Exhibit US-182). “Component” is defined as “any part or system certified by the federal aviation administration for installation or assembly into a commercial airplane”. HB 2294 § 17(2)(b) (Exhibit EC-54); RCW 82.32.550 (Exhibit US-182).

⁵⁹⁹ The lower aerospace rate also applies to foreign manufacturers that produce airplanes or airplane components outside the State of Washington and then sell them in the State of Washington, such that they are subject to Washington’s selling tax. In this case, the aerospace tax rate reduction would apply to the foreign manufacturer’s wholesale/retail sales in the State of Washington.

⁶⁰⁰ “Final assembly of a superefficient airplane” is defined as “the activity of assembling an airplane from components parts {sic} necessary for its mechanical operation such that the finished commercial airplane is ready to deliver to the ultimate consumer.” Exhibit EC-54, HB 2294 § 17(2)(c); RCW 82.32.550 (Exhibit US-182). “Superefficient airplane” is defined as “a twin aisle airplane that carries between two hundred and three hundred fifty passengers, with a range of more than seven thousand two hundred nautical miles, a cruising speed of approximately mach .85, and that uses fifteen to twenty percent less fuel than other similar airplanes on the market.” HB 2294 § 17(2)(f) (Exhibit EC-54); RCW 82.32.550 (Exhibit US-182).

⁶⁰¹ ECFWS, paras. 97, 130-143.

a. *The B&O tax reduction provides no financial contribution to Boeing.*

440. Contrary to the EC's claim,⁶⁰² the B&O tax reduction is not a financial contribution to Boeing under Article 1.1(a)(1) because the State of Washington has not foregone any revenue that is "otherwise due" – a determination that is made on the basis of the State's own tax system. In Washington's activities-based tax system, various business activities have different rates within a certain range. The tax rate reduction for aerospace manufacturing is part of Washington's regular adjustment of its tax rates and falls within the range of tax rates for other activities.

441. The B&O tax rate reduction cannot be a WTO-inconsistent subsidy for the simple reason that it is not a "financial contribution" under Article 1.1(a)(1). Article 1 of the SCM Agreement provides that "a subsidy shall be deemed to exist if . . . there is a financial contribution by a government . . . and a benefit is thereby conferred." Article 1.1(a)(1)(ii) provides that a "financial contribution" exists where "government revenue that is otherwise due is foregone or not collected." But the B&O tax rate reduction for aerospace manufacturing activities does not constitute the foregoing or non-collection of revenue that is "otherwise due" within the meaning of that subparagraph.

442. The Appellate Body has discussed this aspect of Article 1.1(a)(1)(ii) in detail. As an initial matter, it has stated that a tax measure does not create a "financial contribution" merely because the government refrains from imposing taxes or collecting revenue.⁶⁰³ Rather, foregone revenue is only "otherwise due" within the meaning of Article 1.1(a)(1)(ii) if the government refrains from collecting revenue that it could have collected in another situation, *i.e.*, "otherwise."⁶⁰⁴

443. For this reason, the Appellate Body has cautioned against interpreting the word "otherwise" "in the abstract, because governments, in theory, could tax *all* revenues."⁶⁰⁵ Instead, panels must evaluate revenue foregone in light of an objective point of reference. In the words of the Appellate Body:

There must, therefore, be some defined, normative benchmark against which a comparison can be made between the revenue actually raised and the revenue that would have been raised "otherwise". We, therefore, agree with the Panel that the term "otherwise due" implies some kind of comparison between the

⁶⁰² The EC claims that as a result of the B&O tax reduction, the State of Washington will make a direct financial contribution to Boeing of nearly \$2.12 billion and a \$1.15 billion financial contribution to other large civil aircraft component manufacturers, \$1.05 billion of which will pass through to Boeing. ECFWS, para. 131.

⁶⁰³ *United States – FSC 21.5 (AB)*, para. 88.

⁶⁰⁴ *United States – FSC (AB)*, para. 90.

⁶⁰⁵ *United States – FSC (AB)*, para. 90 (emphasis in original).

revenues due under the contested measure and revenues that would be due in some other situation.⁶⁰⁶

444. The Appellate Body has clarified that this “normative benchmark” for determining whether foregone revenue is “otherwise due” is the Member’s own tax rules. WTO Members have the “sovereign authority”⁶⁰⁷ to establish and modify their tax laws and thereby to determine the types and amounts of revenue that they wish to tax (or not to tax). WTO rules do not speak to the issue of Members’ substantive taxing decisions or tax policies. But once a Member has enacted its tax laws, it is the “prevailing domestic standard”⁶⁰⁸ reflected in those laws that provides the reference point for determining whether revenue foregone is “otherwise due” under the SCM Agreement. As the Appellate Body has stated:

We also agree with the Panel that the basis of comparison must be the tax rules applied by the Member in question . . . What is “otherwise due”, therefore, depends on the rules of taxation that each Member, by its own choice, establishes for itself.⁶⁰⁹

445. The Appellate Body has recognized that it may be difficult to identify the relevant “normative benchmark” because Members’ tax systems are often “varied and complex.”⁶¹⁰ Given such complexity, it is critical to identify situations that are appropriate to compare. As the Appellate Body has explained, “there must be a rational basis for comparing the fiscal treatment of the income subject to the contested measure and the fiscal treatment of certain other income.”⁶¹¹

446. For example, in certain circumstances it may be possible to identify whether a challenged measure is an “exception” to a “general rule” of taxation, such that it involves the foregoing or non-collection of revenue that would indeed have been owing and collected if the exception did not exist and the general rule applied.⁶¹² However, where it is not possible to characterize a tax measure as an “exception” to a “general rule,” the Appellate Body exhorts panels to “compare the fiscal treatment of legitimately comparable income to determine whether the contested measure involves the foregoing of revenue which is ‘otherwise due’, in relation to the income in question.”

⁶⁰⁶ *United States – FSC (AB)*, para. 90; *United States – FSC 21.5(AB)*, para. 89.

⁶⁰⁷ *United States – FSC 21.5 (AB)*, para. 89.

⁶⁰⁸ *United States – FSC (AB)*, para. 90.

⁶⁰⁹ *United States – FSC (AB)*, para. 90; *United States – FSC 21.5 (AB)*, para. 89.

⁶¹⁰ *United States – FSC 21.5 (AB)*, para. 90.

⁶¹¹ *United States – FSC 21.5 (AB)*, para. 90.

⁶¹² *United States – FSC 21.5 (AB)*, para. 91.

447. The Appellate Body has also acknowledged that Members may have multiple rules for taxing comparable income. As a result, a panel’s evaluation of a tax measure under Article 1.1(a)(1)(ii) must be “sufficiently flexible to adjust to the complexities of a Member’s domestic rules of taxation.”⁶¹³ Such an evaluation must also involve a comparison of similarly situated taxpayers.⁶¹⁴

448. Ultimately, a panel must determine whether a government has given up “an entitlement to raise revenue that it could ‘otherwise’ have raised.”⁶¹⁵ This cannot be an entitlement in theory or an entitlement that the Panel believes should exist. It must be an entitlement that actually and presently exists in the Member’s tax laws.

449. The Appellate Body’s interpretation of Article 1.1(a)(1)(ii) supports the conclusion that Washington State’s B&O tax rate reduction does not involve revenue foregone that is “otherwise due.” As a result, the B&O tax rate reduction does not constitute a financial contribution and, therefore, is not a WTO-inconsistent subsidy.

450. Applying the Appellate Body’s prior statements, the “normative benchmark” in this dispute for evaluating whether foregone revenue is “otherwise due” under the SCM Agreement is the State of Washington’s tax system – a system that utilizes a B&O tax. The B&O tax focuses on the taxation of categories of activities, not categories of revenue or categories of taxpayers. Pursuant to the B&O tax, the State of Washington taxes different activities at different rates, and it frequently modifies the scope and definitions of its activity categories and the tax rates to which those activities are subject. As explained above, Washington’s B&O tax system has four major activity classifications and tax rates: (1) manufacturing – 0.484 percent (2) wholesaling – 0.484 percent; (3) retailing – 0.471 percent; and (4) services – 1.5 percent.⁶¹⁶

451. These four broad classifications are further subdivided into 36 categories of various business activities, each with their own tax rates. These tax rates range from a high of 3.3 percent down to 0.138 percent. For instance, the disposal of low-level radioactive waste has a rate of 3.3 percent. Activities including extracting and processing for hire and government contracting have B&O tax rates of 0.484 percent. Activities such as manufacturing of semiconductor materials, international investment management services, and tour operators and travel agents fall in the middle of the range with tax rates of 0.275 percent. And other activities, including manufacturing of biodiesel/alcohol fuel and raw seafood, and warehousing or reselling of prescription drugs, fall at the low end of the spectrum of Washington’s B&O tax, with rates of 0.138 percent.

⁶¹³ *United States – FSC 21.5 (AB)*, fn. 66.

⁶¹⁴ *United States – FSC 21.5 (AB)*, paras. 92 and 98.

⁶¹⁵ *United States – FSC (AB)*, para. 90.

⁶¹⁶ Washington State Department of Revenue Business & Occupation Tax, p. 1-2 (Exhibit US-178). The only business activities not subject to the B&O tax are agricultural production and the rental of real estate.

452. In light of the varying rates for different business activities within the State, it is clear that there is no one specific B&O tax rate under Washington’s tax system, and the B&O tax reduction for aerospace manufacturing is not a deviation from this rate. Rather, the “normative benchmark” for determining whether the State of Washington has foregone revenue that is “otherwise due” under its own tax system is the range of B&O tax rates for various business activities. So long as the B&O tax rate reduction for aerospace manufacturing falls within this range, it cannot be considered revenue foregone that is otherwise due.

453. An examination of the range of B&O tax rates for different business activities clearly demonstrates that the tax rate reduction for aerospace manufacturing falls comfortably within this range. The first reduction in the aerospace manufacturing tax rate – from 0.484 percent to 0.4235 percent – remained at the upper end of the range of B&O tax rates. The second rate reduction on July 1, 2007 brought the aerospace manufacturing rate down to 0.2904 percent. Even this rate remains comfortably in the middle of the range of tax rates for various business activities. Indeed, several business activities have a rate of 0.138 percent, which is much lower than even the new aerospace manufacturing rate.⁶¹⁷

454. Accordingly, when compared against the proper normative benchmark – the State of Washington’s activities-based B&O tax system and varying rates for different types of business activities, it is clear that Washington has not given up “an entitlement to raise revenue that it could ‘otherwise’ have raised”⁶¹⁸ by lowering the B&O tax rate for aerospace manufacturing. As the Appellate Body has made clear, such foregone revenue is only “otherwise due” under the SCM Agreement if Washington has given up an existing entitlement in its tax laws to raise revenue. But the State has done nothing of the sort. There is no existing entitlement in Washington’s tax laws to tax revenue resulting from aerospace manufacturing at a rate higher than that specified in HB 2294 because this rate falls within the range of the tax rates for other business activities. Indeed, it would be a mistake to conclude that every time Washington chose to adjust its B&O tax rate for a particular business activity that it was providing a subsidy to that sector. In short, the State of Washington has made no financial contribution to Boeing by reducing the B&O tax rate for aerospace manufacturing because under its own tax system, it has not foregone any revenue “otherwise due.”

455. A consideration of effective tax rates further confirms the conclusion that the State of Washington made no financial contribution by lowering its nominal tax rate for aerospace manufacturing. Even with the B&O tax rate reduction, the average effective tax rate for aerospace manufacturing remains higher than the average effective tax rate for all businesses in the State. Different sectors have different effective tax rates because the B&O tax “pyramids,” which means the gross value of goods and services is taxed at each stage in the production chain.

⁶¹⁷ Business and Occupation Tax, RCW 82.04, p. 1 (Exhibit US-179).

⁶¹⁸ *United States – FSC (AB)*, para. 90.

456. With pyramiding, goods and services that are inputs into higher stages of production are effectively taxed multiple times as they move through the production chain,⁶¹⁹ and each business in this chain must pay the B&O tax on its gross income. Pyramiding results in a successively greater effective tax rate for each business in the chain because the gross value of the product at each stage includes taxes paid on intermediate products, so the tax accumulates, or pyramids, as it moves through the production chain.⁶²⁰

457. The concept of pyramiding is best illustrated by example, such as the production and sale of wood cabinets – a multi-step process where each step may be performed by a different entity. One entity harvests the timber, another mills the timber into lumber, a third entity manufactures the lumber into cabinets, and a fourth entity sells the cabinets to the consumer at the retail stage. Under the B&O tax, the *total value* of the good is taxed when it is sold from one entity to another in the production chain, including the value of any intermediate products. The value of the timber is embedded in the value of the lumber, the value of the lumber is embedded in the value of the manufactured cabinets, and the value of the manufactured cabinets is embedded in the value of the cabinets sold at retail. But because the gross value of the product at each stage includes taxes paid on intermediate products, the tax accumulates as it moves through each stage of production.⁶²¹ As a result, the retailer of the cabinets pays a higher tax than the cabinet manufacturer, who in turn pays a higher tax than the lumber miller. This phenomenon is illustrated below.⁶²²

⁶¹⁹ Washington State Tax Structure Study 2002, Volume 1, p. 110 (Exhibit US-180).

⁶²⁰ Washington State Tax Structure Study 2002, Volume 1, p. 36 (Exhibit US-180).

⁶²¹ Washington State Tax Structure Study 2002, Volume 1, p. 36 (Exhibit US-180).

⁶²² This theoretical example takes only the B&O tax into account, but of course, other economic factors determine the ultimate cost of materials and the selling price.

NON-BCI VERSION

Transaction	Selling Price	Tax Rate	Tax Paid	Cumulative Tax	Effective Tax Rate
Logger harvests timber and sells to lumber miller	\$100,000	0.484 percent ⁶²³	\$484	\$484	0.484 percent
Lumber miller mills timber and sells to cabinet manufacturer	\$200,000	0.484 percent	\$968	\$1452	0.726 percent
Manufacturer makes cabinets and sells to cabinet retailer	\$300,000	0.484 percent	\$1452	\$2904	0.968 percent
Cabinet retailer sells to consumer	\$500,000	0.471 percent ⁶²⁴	\$2355	\$5259	1.05 percent

458. As the above example demonstrates, pyramiding results in different businesses paying different effective tax rates on the same goods or services. Even in the simple transaction involving cabinets, the retailer’s effective tax rate is more than twice that of the logger. Differing effective tax rates occurs when goods or services of one business are the inputs for another’s production or sales. For instance, in the above example, the major component of the cabinet – the timber – is taxed four times by the time it reaches the consumer. In the manufacturing sector, manufacturing activities that are complex and have multiple stages result in higher effective tax rates for the businesses that sells the finished products.⁶²⁵

459. The pyramiding of the Washington B&O tax creates effective tax rates that vary substantially across economic sectors and business activities. The B&O tax pyramids an average of 2.5 times, but the rate varies considerably across industries. In the services sector, the average rate of pyramiding is 1.5 times. For some manufacturing activities, the rate of pyramiding is over five or six times.⁶²⁶ Because aerospace manufacturing often involves multiples steps, its average rate of pyramiding – 5.3⁶²⁷ – is much higher than other sectors, and so is its effective tax rate. The effective tax rate for aerospace manufacturing is 2.63 percent –

⁶²³ The B&O tax rate for standard extracting, manufacturing, and wholesaling is 0.484 percent.

⁶²⁴ The B&O tax rate for retail sales is 0.471 percent.

⁶²⁵ The pyramiding nature of the B&O tax can be contrasted with value-added taxes (“VAT”). Unlike the B&O tax, a VAT is imposed only on the *increase* in the value of goods or services created by the taxpayer. A VAT therefore avoids pyramiding by taxing only the value added by an enterprise to the goods or services it sells, not their overall value.

⁶²⁶ Washington State Tax Structure Study 2002, Volume 1, p. 24 (Exhibit US-180).

⁶²⁷ Washington State Tax Structure Study 2002, Volume 1, p. 112, Table 9-7 (Exhibit US-180).

the third highest in the State – compared to an average of only 1.53 percent for all other businesses in the State of Washington.⁶²⁸

460. The appropriate reference point for determining whether the B&O tax rate reduction involves “revenue foregone” is the average effective tax rate for all businesses in the State of Washington. Aerospace manufacturing need not bear a significantly higher tax burden than other business activities when the State of Washington is seeking relative tax equality among various business activities.

461. The B&O tax reduction serves to bring the effective tax rate for aerospace manufacturing in line with the average effective tax rate for other businesses in the State of Washington. With the second stage of the B&O tax reduction,⁶²⁹ the *effective* tax rate for aerospace manufacturing was reduced from 2.53 percent to 1.578 percent.⁶³⁰ The effective tax rate for aerospace manufacturing now more closely approximates, but still exceeds, the average effective tax rate for other Washington businesses of 1.53 percent. Thus, the new tax rate is *not a favorable rate* for aerospace manufacturing. Rather, it makes the effective tax rate for this sector *less unequal* and provides it non-discriminatory treatment compared to other business activities in the State. Indeed, even with the B&O tax reduction, the new effective tax rate for aerospace manufacturing remains slightly higher than the average effective tax rate for all other businesses in Washington. For this reason, when compared to the appropriate reference point – the average effective tax rate for all businesses in Washington – it is clear that there is no revenue foregone from the B&O tax rate reduction.

462. Even aside from the fact that the State of Washington has made no financial contribution to Boeing because it has not foregone revenue “otherwise due,” the amount of the tax reduction is much smaller than the EC claims. This is because under the SCM Agreement, when the financial contribution is a tax measure that takes the form of revenue foregone that is otherwise due, the amount of the financial contribution must be limited to revenue that has *actually* been foregone. Unlike Articles 1(a)(1)(i) and (iii), Article 1(a)(1)(ii) is limited to revenue that was foregone in the past. It does not apply to revenue that may be foregone in the future. As such, revenue that a government may potentially forego in the future does not constitute a financial contribution under Article 1(a)(1)(ii).

⁶²⁸ Washington State Tax Structure Study 2002, Volume 2, p. 41 (Exhibit US-183). Economic Analysis of the European Community’s Assertion Regarding Pass-Through Taxes in the Washington State Aerospace Market, pp. 13, 18 (Exhibit US-185).

⁶²⁹ This second stage of the B&O tax reduction decreased the tax on aerospace manufacturing from .04235 percent to .02904 percent and came into effect on July 1, 2007. HB 2294 § 3(13)(Exhibit EC-54); RCW 82.04.260(1) (Exhibit US-181).

⁶³⁰ The new effective tax rate for aerospace manufacturing is calculated by first taking the old effective tax rate and reducing it by 40 percent. This calculation is: $(2.63 \times .4 = 1.052)$. The amount of the reduction is then subtracted from the old effective tax rate to obtain the new effective tax rate. This calculation is: $(2.63 - 1.052 = 1.578)$.

463. Article 1(a)(1)(ii) states that “there is a financial contribution by a government” when “government revenue that is otherwise due is *foregone* or *not collected*.”⁶³¹ The plain language of Article 1(a)(1)(ii) uses the past tense – i.e. revenue that has already been foregone or not collected – making clear that it references only actions that have already occurred. Article 1(a)(1)(ii) does not mention revenue that the Government may choose to forego or not collect in the future.

464. The meaning of Article 1(a)(1)(ii) is even clearer when compared to the language of Article 1(a)(1)(i), which contemplates future action. Article 1(a)(1)(i) provides for a financial contribution when “a government practice involves a direct transfer of funds (e.g. grants, loans, and equity infusion)” or a “*potential* direct transfers of funds or liabilities.”⁶³² The use of the word “potential” in Article 1(a)(1)(i) clearly contemplates that a particular financial contribution may occur in the future. In contrast, Article 1(a)(1)(ii) contains no such forward-looking language. For this reason, revenue that is *projected to be* or *has the potential to be* foregone at some point in the future does not constitute a financial contribution.

465. The difference in the SCM Agreement between the potentially forward-looking nature of a direct transfers of funds, such as grants, and the backwards-looking nature of revenue foregone or not collected that is otherwise due is grounded in logic. While a direct transfer of funds by a government can be certain and quantifiable, even if it occurs in the future, this is not true in the case of revenue foregone through tax measures. A company’s business and tax situation may change dramatically from year to year. It cannot be known with any certainty whether there will be any tax revenue to forego in a future year, let alone the actual amount of this revenue. For this reason, governments and their taxing authorities can and should have discretion to adjust the collection of taxes because the jurisdiction’s tax revenue is subject to change based on the tax situation of its taxpayers. The SCM Agreement presumes that Members will make such adjustments, and therefore, it clearly contemplates that for tax measures, only the amount of revenue that has actually been foregone should be counted as a financial contribution.

466. In this case, since Washington State’s B&O tax rate reduction under HB 2294 only entered into force on October 1, 2005, any financial contribution arising out of it can be – at most – no more than the revenue that the State has actually foregone and that was “otherwise due” since that time as a result of the rate reduction. The EC claims that the value of the financial contribution arising out of the B&O tax rate reduction is approximately \$3.27 billion.⁶³³ Yet that figure represents a *projection* that State of Washington made at one time regarding its total revenue reduction under HB 2294 through FY 2023 rather than the actual revenue that has been foregone as a result of the tax rate reduction. The State’s estimate of the revenue its revenue reduction between October 1, 2005 and the end of FY 2007 as a result of

⁶³¹ SCM Agreement, Article 1(a)(1)(ii) (emphasis added).

⁶³² SCM Agreement, Article 1(a)(1)(i) (emphasis added).

⁶³³ ECFWS, para. 131.

the tax rate reduction is only \$54.4 million.⁶³⁴ Moreover, not all of this amount can be considered applicable to Boeing because it includes all taxpayers eligible to take the rate reduction under HB 2294, which consists of a variety of other aerospace companies both within and outside the State of Washington.

b. *The B&O tax reductions of other unrelated aerospace manufacturers do not pass through to Boeing.*

467. Assuming *arguendo* that the B&O tax rate reduction for aerospace manufacturing is a financial contribution, the tax rate reductions of other aerospace manufacturers do not pass through to Boeing. The B&O tax rate reductions for aerospace manufacturing do not apply exclusively to Boeing. Rather, all entities engaged in aerospace manufacturing activities in the State of Washington are eligible to receive HB 2294's B&O tax rate reductions even if they sell nothing to Boeing. In fact, numerous companies that engage in qualifying aerospace manufacturing activities, including companies that do not supply Boeing, have utilized these tax rate reductions. The EC claims that B&O tax reductions for these separate companies constitute a financial contribution and benefit to Boeing. Essentially, the EC attempts to equate all aerospace manufacturing activity that occurs in the State of Washington with Boeing. But, that is simply not the case. Even for companies that do supply Boeing, the EC has provided no reason to treat a tax reduction to these independent and unrelated companies as a payment to Boeing.

468. The EC certainly has provided no evidence that the B&O tax rate reductions taken by independent and unrelated companies “pass through” to Boeing. In *US-Lumber CVD*, the Appellate Body explained that where input suppliers and producers of final products “operate at arm’s length, the pass-through of input subsidy benefits from the direct recipients to the indirect recipients downstream cannot simply be presumed; it must be established by the investigating authority. In the absence of such analysis, it cannot be shown that the essential elements of the subsidy definition in Article 1 are present in respect of the *processed* {input} *product*.”⁶³⁵ Based on the Appellate Body’s analysis in *US-Lumber CVD*, the burden of establishing pass-through is on the complaining party. The EC has failed to meet its burden of proof.

⁶³⁴ Washington State Department of Revenue Final HB 2294 Fiscal Note - 20-Year Spreadsheet (Exhibit US-184). This spreadsheet represents the most recent data compiled by the State of Washington to date. Note that the EC claims that the total value of the all of the Washington State tax incentives is \$3.56 billion. This exhibit projects that the total value of these tax incentives is \$3.2 billion through FY 2023. The difference between these two figures is because the EC has based its projection on 21-year period, whereas the United States has based its projection on a 20-year period. Note that the State of Washington’s fiscal year begins on July 1st and ends June 30th. For instance, FY 2007 begins on July 1, 2006 and ends on June 30, 2007.

⁶³⁵ *US – Lumber CVD (AB)*, paras. 143 (emphasis in original) and 140 (“Where 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. In such case, it is necessary to analyze to what extent subsidies on inputs may be included in the determination of the total amount of subsidies bestowed upon processed products.”)

469. Instead, the EC relies solely on expert reports, which it cites for the proposition that “the B&O tax rate reductions, received by Boeing’s LCA component manufacturers will pass through to Boeing in the form of lower input prices.”⁶³⁶ The EC does not even explain the theories that its “experts”, Professors Paul Wachtel and John Asker, used to reach this conclusion. In fact, these theories and the conclusions they produce are entirely divorced from the realities of the aerospace manufacturing market.

470. Wachtel argues that the B&O tax rate reduction is an *ad valorem* subsidy – i.e. a subsidy based on a set proportion of the price received per unit supplied – that will be passed through to Boeing by its suppliers at a rate of 100 percent.⁶³⁷ He bases this conclusion entirely on a generic economic model by Asker that does not reflect reality. As shown in an expert report by Dr. Gary Dorman, a number of core assumptions underlying Wachtel and Asker’s analysis are mistaken and without those assumptions, the analysis does not hold.⁶³⁸ Put simply, the EC has not demonstrated pass-through.

471. Wachtel and Asker assume that all suppliers receive the same subsidy and have the same marginal costs. In the model on which they rely, an intense price-based competition is waged between similarly situated suppliers, and each supplier agrees to reduce its bid price by the subsidy in order to win the bid.⁶³⁹ This misconstrues the aerospace supplier market and leads to an erroneous conclusion of pass-through.

472. First, Asker’s model assumes that the *ad valorem* subsidy rate does not vary across suppliers.⁶⁴⁰ But the assumption that all suppliers receive the same subsidy is obviously incorrect. The alleged subsidy – the B&O tax rate reduction – is provided by the State of Washington, and in order to receive it, a supplier must have a taxable presence within the State.⁶⁴¹ The market for large civil aircraft inputs is global, and indeed, a significant portion of

⁶³⁶ ECFWS, para. 135. The EC asserts that the amount of benefit that will be passed through to Boeing is \$1.05 billion. ECFWS, para. 136.

⁶³⁷ Paul Wachtel, *Economic Analysis: Subsidy Pass-Through and Asset Pricing Issues Relevant to Subsidies to U.S. LCA Industry*, pp. 1-2 (Dec. 2006), including John Asker, *On the Pass-Through of Ad Valorem Subsidies Received by Input Suppliers* (Nov. 1, 2006) attached as Annex A to Wachtel Economic Analysis (Exhibit EC-16).

⁶³⁸ Dr. Gary J. Dorman, *Reply to Reports of Professors Wachtel and Asker* (July 2, 2007) (Exhibit US-186).

⁶³⁹ Paul Wachtel, *Economic Analysis: Subsidy Pass-Through and Asset Pricing Issues Relevant to Subsidies to U.S. LCA Industry*, p. 3 (Dec. 2006), including John Asker, *On the Pass-Through of Ad Valorem Subsidies Received by Input Suppliers*, p. 12 (Nov. 1, 2006) (Exhibit EC-16).

⁶⁴⁰ Paul Wachtel, *Economic Analysis: Subsidy Pass-Through and Asset Pricing Issues Relevant to Subsidies to U.S. LCA Industry*, p. 3 (Dec. 2006), including John Asker, *On the Pass-Through of Ad Valorem Subsidies Received by Input Suppliers*, p. 12 (Nov. 1, 2006) (Exhibit EC-16).

⁶⁴¹ Dr. Gary J. Dorman, *Reply to Reports of Professors Wachtel and Asker*, p. 4-5 (July 2, 2007) (Exhibit US-186). Note that only about 215 entities have taken the aerospace B&O tax rate reduction. As such, a large

(continued...)

inputs into the 787 are produced outside of the State of Washington. It is thus clearly not correct to base a model on an assumption that all bidders receive the B&O tax rate reduction. As Dr. Dorman’s analysis shows, when this assumption is removed, Asker’s model no longer yields the pass-through that Wachtel alleges.⁶⁴²

473. Second, Asker’s model incorrectly assumes that all suppliers have the same marginal cost.⁶⁴³ Boeing’s suppliers are located around the globe. These suppliers have different cost structures, depending on their location and other competitive conditions in the relevant market, such as labor and materials prices. Thus, significant variation between suppliers makes the bidding process far more complex than Asker’s model can accommodate.

474. Third, Asker’s assumption that a “contract is awarded to the supplier with the lowest per-unit price”⁶⁴⁴ is not reflective of the large civil aircraft supplier market. Price is only one factor among several, including technology and performance, that Boeing takes into account when making supply decisions.⁶⁴⁵ Boeing regularly enters into collaborative relationships with suppliers to co-design and produce major aircraft components, which require significant knowledge and technical expertise. In such relationships, the ability of the suppliers to effectively produce the necessary components is critical. Furthermore, given the highly regulated nature of the aerospace industry, it is also necessary for Boeing to find suppliers that meet its strict quality standards.⁶⁴⁶ In choosing certain preferred suppliers, Boeing also considers criteria including advanced quality system implementation, business processes, and performance.⁶⁴⁷

475. Fourth, Wachtel and Asker incorrectly assume that Boeing is a monopsonist (i.e. a single buyer that holds all of the market power in the purchasing relationship) and that a

⁶⁴¹(...continued)

number of Boeing suppliers that have no taxable presence in the State of Washington do not receive the B&O tax rate reduction.

⁶⁴² Dr. Gary J. Dorman, *Reply to Reports of Professors Wachtel and Asker*, p. 4-5 (July 2, 2007) (Exhibit US-186).

⁶⁴³ Paul Wachtel, *Economic Analysis: Subsidy Pass-Through and Asset Pricing Issues Relevant to Subsidies to U.S. LCA Industry* (Dec. 2006), including John Asker, *On the Pass-Through of Ad Valorem Subsidies Received by Input Suppliers*, p. 7 (Nov. 1, 2006) (Exhibit EC-16).

⁶⁴⁴ Paul Wachtel, *Economic Analysis: Subsidy Pass-Through and Asset Pricing Issues Relevant to Subsidies to U.S. LCA Industry*, p. 3 (Dec. 2006), including John Asker, *On the Pass-Through of Ad Valorem Subsidies Received by Input Suppliers*, p. 2 (Nov. 1, 2006) (Exhibit EC-16).

⁶⁴⁵ Dr. Gary J. Dorman, *Reply to Reports of Professors Wachtel and Asker*, p. 3 (July 2, 2007) (Exhibit US-186).

⁶⁴⁶ Economic Analysis of the European Community’s Assertion Regarding Pass-Through Taxes in the Washington State Aerospace Market, p. 11 (Exhibit US-185).

⁶⁴⁷ Economic Analysis of the European Community’s Assertion Regarding Pass-Through Taxes in the Washington State Aerospace Market, p. 11 (*citing* Boeing website) (Exhibit US-185).

supplier's power is limited and based only on asymmetric information about its own cost structure. These assumptions are built into the Asker economic model and are used by Wachtel to support his conclusion that any alleged subsidy would be passed on to Boeing, rather than "pocketed" by the supplier, as would normally be expected.

476. However, Boeing's suppliers can and do sell to a variety of other entities, both inside and outside the aerospace sector.⁶⁴⁸ Within the aerospace sector, suppliers are free to sell their goods to other aerospace and defense companies, such as Airbus, Bombardier, Embraer, Lockheed Martin, and Northrop Grumman. Suppliers can also sell their products to non-aerospace companies because many products used by Boeing, such as composites, also have other applications. Even smaller aerospace suppliers have other options beyond selling to Boeing because they often sell their products to other major component manufacturers.

477. Evidence from the State of Washington further demonstrates that aerospace suppliers sell to other industries and are not tied to Boeing. Aside from Boeing, of the more than 200 firms that qualified for the B&O tax rate reduction for aerospace activities in FY 2006, aerospace activity represented only 53 percent of their total activity in the State of Washington. That is because many of these firms are not "aerospace companies" themselves. Rather, they represent a variety of other industries, such as plastics manufacturing, aluminum production, sheet metal work manufacturing, machine tool accessory manufacturing, and computer services, to name a few.⁶⁴⁹

478. Indeed, the very sources on which Wachtel relies belie his conclusion that Boeing holds all of the market power because of its monopsony status. Wachtel quotes a 2005 Department of Commerce Study as saying:

{T}here are tens of thousands of smaller U.S. suppliers to the aerospace industry. A full accounting of their size and economic activity is difficult to calculate However, as one measure, Boeing reports that it paid more than \$24 billion between June 2002 and June 2004 to more than 32,000 businesses in the United States.⁶⁵⁰

However, through a careful use of ellipses, Wachtel's quotation omits a crucial statement that undermines Wachtel's conclusion: "In fact, some of these companies supply products to a variety of industries and are not considered 'aerospace' manufacturers."⁶⁵¹

⁶⁴⁸ Dr. Gary J. Dorman, *Reply to Reports of Professors Wachtel and Asker*, p. 3 (July 2, 2007) (Exhibit US-186).

⁶⁴⁹ NAICS Classifications of All Firms Using the Aerospace B&O Tax Rate Reduction (Exhibit US-187).

⁶⁵⁰ Paul Wachtel, *Economic Analysis: Subsidy Pass-Through and Asset Pricing Issues Relevant to Subsidies to U.S. LCA Industry*, p. 2, n.2 (Dec. 2006) (Exhibit EC-16).

⁶⁵¹ U.S. Department of Commerce, International Trade Administration, *The U.S. Jet Transport Industry:*
(continued...)

479. Wachtel also omits the paragraph immediately preceding the one that he cites from the Department of Commerce study, which explains that the aerospace suppliers have a wide range of potential buyers for their products.⁶⁵² This paragraph states:

U.S. suppliers are no longer wholly dependent upon U.S. prime manufacturers (i.e. LCAs) for sales. As noted above, U.S.-manufactured components are widely used in commercial jet aircraft and engines produced around the world. Large U.S. aerospace suppliers even participate as risk-sharing partners on some of the newest programs, such as the Airbus A380 or the Embraer ERJ-170/190. In some cases suppliers may sell the same type of part or component to multiple primes, such as to Boeing as well as Airbus. In other cases they may produce different equipment for different markets.⁶⁵³

In other words, the evidence that Wachtel cites as support for the proposition that producers of aerospace components are captive suppliers actually says the opposite – that they have a multitude of choices for doing business.

480. Furthermore, Boeing does not have complete market power over its suppliers because these suppliers also have leverage over Boeing. Asker's pass-through model assumes that the only source of market power for suppliers is "asymmetric information" about the true cost of supplying goods.⁶⁵⁴ In fact, suppliers enjoy market power for numerous reasons, including a limited number of competitors, unique product designs, and patent protection.⁶⁵⁵ Boeing has complex, collaborative relationships with its major component suppliers, who serve as partners that co-design and produce major aircraft structural components. These components are knowledge-intensive and require a high level of technology and sophistication. In such collaborative relationships where Boeing relies on the expertise of its partners, these partners also have market power over Boeing.

481. In short, Wachtel and Asker's depiction of the bidding process necessary for subsidies to be passed through to the ultimate purchaser does not apply to Boeing's purchase of components.

⁶⁵¹(...continued)

Competition, Regulation, and Global Market Factors Affecting U.S. Producers, p. 52 (March 2005) (Exhibit US-55).

⁶⁵² Economic Analysis of the European Community's Assertion Regarding Pass-Through Taxes in the Washington State Aerospace Market, p. 3 (Exhibit US-185).

⁶⁵³ Paul Wachtel, *Economic Analysis: Subsidy Pass-Through and Asset Pricing Issues Relevant to Subsidies to U.S. LCA Industry*, p. 2, n.3 (Dec. 2006) (Exhibit EC-16).

⁶⁵⁴ Paul Wachtel, *Economic Analysis: Subsidy Pass-Through and Asset Pricing Issues Relevant to Subsidies to U.S. LCA Industry* (Dec. 2006) including John Asker, *On the Pass-Through of Ad Valorem Subsidies Received by Input Suppliers*, pp. 6-7 (Nov. 1, 2006) (Exhibit EC-16).

⁶⁵⁵ Dr. Gary J. Dorman, *Reply to Reports of Professors Wachtel and Asker*, p. 4 (July 2, 2007) (Exhibit US-186).

Not all of Boeing's suppliers receive the B&O tax reduction or have the same marginal cost. Thus, they cannot compete on exactly the same terms, and in any event, price alone is not the distinguishing factor among them. Moreover, Boeing itself considers many non-price factors when making contract award decisions. Finally, Boeing is not a monopsonist, and suppliers have market power. Since Asker's model about a price-driven competitive bidding situation is inapplicable to Boeing, Wachtel's conclusion that Boeing's suppliers will pass through the benefit of the B&O tax rate reduction to Boeing is also invalid. Accordingly, the EC has failed to justify its claim that the B&O tax rate reduction received by other companies in the State of Washington constitutes a benefit to Boeing.

c. The B&O tax rate reduction is not specific to Boeing or to aerospace manufacturing.

482. If the Panel finds that the B&O tax rate reduction for aerospace manufacturing constitutes a subsidy, which the United States believes it does not, it is not specific. Contrary to the EC's assertions,⁶⁵⁶ when viewed in the context of Washington's overall B&O tax structure and its treatment of other business activities in the State, it is clear that the B&O tax rate reduction for aerospace manufacturing is not specific within the meaning of the SCM Agreement. This is because Washington has provided similar reductions to a variety of other business activities in the State. These B&O tax reductions are part of the State of Washington's larger efforts to ensure that the State's tax structure does not impede investment and other economic activity. And given that the B&O tax tends to inhibit business development, Washington has adopted B&O tax reductions and exemptions for other business activities that are multi-layered and face a disproportionate burden of the B&O tax.

483. For instance, the State of Washington has recently reduced the B&O tax rate for manufacturers and wholesalers of solar energy systems and aluminum smelting entities that manufacture aluminum to 0.2904 percent.⁶⁵⁷ Similarly, Washington has lowered the B&O tax rate to 0.2705 percent for entities engaged in manufacturing or processing for hire of semiconductor materials.⁶⁵⁸ In addition, the State of Washington has provided B&O tax rate reductions to numerous other business activities. Included among them are: biofuels manufacturing, timber products manufacturing, nuclear fuel assembly manufacturing, wholesaling and retailing, flour and oil manufacturing, dried pea and meat processors, and stevedoring, to name a few.⁶⁵⁹ Clearly, in light of these numerous B&O tax reductions that extend across a variety of business activities, the reduction in the rate for aerospace manufacturing is not *de facto* specific within the meaning of the SCM Agreement.

⁶⁵⁶ ECFWS, paras. 139-143.

⁶⁵⁷ RCW 82.04.294 (Exhibit US-188); RCW 82.04.2909 (Exhibit US-189).

⁶⁵⁸ RCW 82.04.2404 (Exhibit US-190).

⁶⁵⁹ Business and Occupation Tax – Differential Tax Rates (Exhibit US-191).

2. *B&O tax credits*

484. In its efforts to remedy the poor business environment created by the B&O tax and to foster further economic development in Washington, the State legislature also included three B&O tax credits in HB 2294. These tax credits relate to certain: (1) preproduction development expenditures, (2) computer software and hardware, and (3) property taxes. The tax credits for preproduction development expenses and property taxes are not actionable subsidies to Boeing because they are not specific under Article 2.1.⁶⁶⁰

a. The three tax credits

i. Preproduction development

485. The B&O tax credit for pre-production development expenditures provides:

(1)(a) In computing the tax imposed under this chapter, a credit is allowed for each person for preproduction development spending occurring after the effective date of this act.

(b) Before July 1, 2005, any credits earned under this section must be accrued and carried forward and may not be used until July 1, 2005. These carryover credits may be used at any time thereafter, and may be carried over until used. Refunds may not be granted in the place of a credit.

(2) The credit is equal to the amount of qualified preproduction development expenditures of a person, multiplied by the rate of 1.5 percent.

486. Thus, this provision gives a tax credit to any “manufacturer or processor for hire of commercial airplanes, or components of such airplanes”⁶⁶¹ for its expenditures on certain aeronautics-related research, design, and engineering activities⁶⁶² performed within the State of Washington. The credit is equal to 1.5 percent of expenditures on qualifying activities, which do not include manufacturing or production-related activities.⁶⁶³

ii. Computer software and hardware

487. HB 2294’s B&O tax credit for design and pre-production development computer equipment states, in relevant part:

⁶⁶⁰ The United States notes that the tax credit for computer software and hardware is specific in that it applies only to manufacturers of commercial airplanes.

⁶⁶¹ HB 2294 § 7(5)(b) (Exhibit EC-54); RCW 82.04.4461(5)(b) (Exhibit US-192).

⁶⁶² HB 2294 § 7(5)(c) (Exhibit EC-54); RCW 82.04.4461(5)(c) (Exhibit US-192).

⁶⁶³ HB 2294 § 7(5)(c) (Exhibit EC-54); RCW 82.04.4461(5)(c) (Exhibit US-192).

(1) In computing the tax imposed under this chapter, a credit is allowed for the investment related to design and preproduction development computer software and hardware acquired between July 1, 1995, and the effective date of this act, and used by an eligible person primarily for the digital design and development of commercial airplanes. The credit shall be equal to the purchase price of such property, multiplied by 8.44 percent. Credit taken in any one calendar year may not exceed ten million dollars, and total lifetime credit taken under this section by any one person may not exceed twenty million dollars. Credit may be carried over until used.⁶⁶⁴

488. In other words, this provision grants a B&O tax credit to any “manufacturer of commercial airplanes” for its expenditures on certain computer equipment between July 1, 1995 and July 1, 2003. The credit is equal to 8.44 percent of eligible computer expenses, up to a maximum of \$10 million per year and a maximum of \$20 million for a single taxpayer over the life of the program.

iii. Property taxes

489. HB 2294 provides a B&O tax credit for certain property taxes. Specifically, HB 2294 states:

(1) In computing the tax imposed under this chapter, a credit is allowed for property taxes paid during the calendar year.

(2) The credit is equal to:

(a)(i) Property taxes paid on new buildings, and land upon which this property is located, built after the effective date of this act, and used in manufacturing commercial airplanes or components of such airplanes; or

(ii) Property taxes attributable to an increase in assessed value due to the renovation or expansion, after the effective date of this act, of a building used in manufacturing commercial airplanes or components of such airplanes; and

(b) Property taxes paid on machinery and equipment exempt under RCW 82.08.02565 or 82.12.02565 used in manufacturing commercial airplanes or components of such airplanes and acquired after the effective date of this act.⁶⁶⁵

490. This provision allows a taxpayer to take a tax credit equal to the State and local property taxes it has paid on certain property that is used in the manufacture of airplanes or airplane

⁶⁶⁴ HB 2294 § 8 (Exhibit EC-54); RCW 82.04.4462 (Exhibit US-193).

⁶⁶⁵ HB 2294 § 15 (Exhibit EC-54); RCW 82.04.4463 (Exhibit US-194).

components, in particular: (1) new buildings, and the land they occupy, constructed after December 1, 2003; (2) increases in the assessed value due to renovation or expansion after December 1, 2003; and (3) machinery and equipment acquired after December 1, 2003.

b. Legal analysis

491. The B&O tax credits for preproduction development expenditures and property taxes are not actionable subsidies under the SCM Agreement because they are not specific. As an aside, the EC has overstated the value of these tax credits to Boeing.

492. **Financial Contribution:** In this particular situation, the B&O tax credits at issue constitute a financial contribution because the State of Washington is foregoing revenue by providing these tax credits, but the amount of this financial contribution is quite small. The EC claims that all of HB 2294’s tax incentives other than the B&O tax rate reduction are collectively worth \$290 million,⁶⁶⁶ and the EC attributes \$113.9 million of this amount to B&O tax credits through FY 2024.⁶⁶⁷ In fact, the total financial contribution is significantly smaller than the EC suggests.

493. As discussed above with respect to the B&O tax rate reduction in Section X(B)(1)(b), the calculation of a financial contribution arising out of “revenue foregone” that is otherwise due under Article 1.1(a)(1)(ii) of the SCM Agreement includes only revenue that has actually been foregone by a government. It does not include revenue that is projected or expected to be foregone in the future. While the State of Washington has estimated that this tax credit could result in a total of \$185.3 million of revenue foregone through FY2023,⁶⁶⁸ the actual revenue foregone through the end of FY2007 is only \$66.4 million.⁶⁶⁹ As a result, any financial contribution cannot exceed this amount.

494. In fact, the amount to Boeing is only [***], because 35 other entities engaged in the manufacture of airplanes and airplane components have taken the B&O tax credits for preproduction development and property taxes, the aggregate value of which is over [***].⁶⁷⁰ The total amount of the B&O tax credits taken by these other entities does not constitute a subsidy to Boeing because the EC has failed to demonstrate that these tax credits pass through to Boeing.

⁶⁶⁶ ECFWS, para. 131.

⁶⁶⁷ State and Local Subsidies to Boeing LCA Division, p. 2 (Exhibit EC-27).

⁶⁶⁸ Washington State Department of Revenue Final HB 2294 Fiscal Note - 20-Year Spreadsheet (Exhibit US-184).

⁶⁶⁹ Washington State Department of Revenue Final HB 2294 Fiscal Note - 20-Year Spreadsheet. (Exhibit US-184). Of this \$66.2 million in B&O tax credits, \$43.8 million is for preproduction development expenditures, \$20 million is for computer equipment, and \$2.4 million is for property taxes.

⁶⁷⁰ Washington State B&O Tax Credits Taken By Entities Other Than Boeing (Exhibit US-195) (BCI).

495. **Specificity:** The B&O tax credits for preproduction development expenditures and property taxes are not specific under Article 2.1 of the SCM Agreement because the State of Washington has provided similar credits to a variety of other business activities within the State. For instance, Washington provides a B&O tax credit when qualified businesses in rural areas create new employment positions.⁶⁷¹ Businesses may also qualify for B&O tax credits by providing certain job training programs. High technology businesses engaged in research and development activities in the fields of advanced computing, advanced materials, biotechnology, electronic device technology, and environmental technology in the State of Washington may also receive B&O tax credits. B&O tax credits also extend to small businesses and businesses engaged in certain international service activities.⁶⁷² And, aluminum smelters are eligible for B&O tax credits for property taxes paid. Given that Washington extends B&O tax credits to a broad spectrum of business activities in the State, the credits for aerospace manufacturers are not specific under Article 2.1 and therefore are not actionable subsidies.

3. *Sales and use tax exemptions*

496. In addition to the B&O tax, the State of Washington has a retail sales tax, which is a tax on the sale of tangible personal property and services. Washington also imposes a use tax on the use of certain goods and services when sales tax has not been paid. The EC contests two exemptions to Washington's sales and use taxes found in HB 2294 for: (1) computer hardware, peripherals, and software, and (2) certain construction services and equipment.

a. Computer hardware, peripherals, and software

497. The sales and use tax exemptions for computer equipment under HB 2294 provide, respectively, in pertinent part:

(1) The tax levied by RCW 82.08.020 shall not apply to sales of computer hardware, computer peripherals, or software, not otherwise eligible for exemption under RCW 82.08.02565, to a manufacturer or processor for hire of commercial airplanes or components of such airplanes, used primarily in the development, design, and engineering of such products, or to sales of or charges made for labor and services rendered in respect to installing the computer hardware, computer peripherals, or software.⁶⁷³

* * * * *

(1) The provisions of this chapter shall not apply in respect to the use of computer hardware, computer peripherals, or software, not otherwise eligible for

⁶⁷¹ Rural Area Business and Occupation Tax Credit for New Employees (Exhibit US-196).

⁶⁷² B&O Tax Credits Website (Exhibit US-197).

⁶⁷³ HB 2294 § 9 (Exhibit EC-54); RCW 82.08.975 (Exhibit US-198).

exemption under RCW 82.12.02565, by a manufacturer or processor for hire of commercial airplanes or components of such airplanes, used primarily in the development, design, and engineering of such products, or to the use of labor and services rendered in respect to installing the computer hardware, computer peripherals, or software.⁶⁷⁴

498. In other words, HB 2294 provides an exemption from sales tax to companies manufacturing airplanes or airplane components for purchases of computer equipment used for development of those products. It also provides an exemption from the use tax to such companies for their use of such computer equipment. The labor and services necessary for installation of this computer equipment is also exempt from sales and use tax.

499. **Financial Contribution:** As discussed above in Section X(B)(1)(b) and as with other tax measures, the amount of the financial contribution arising from “revenue foregone” that is otherwise due under Article 1.1(a)(1)(ii) of the SCM Agreement includes only revenue that has *actually* been foregone by a government. It does not include revenue that is *projected* or *expected* to be foregone in the future. While the State of Washington has estimated that this tax exemption could result in a total of \$107.1 million of revenue foregone for all qualifying businesses through FY2023,⁶⁷⁵ the actual revenue foregone through the end of FY2007 is only \$11.5 million.⁶⁷⁶ The amount relevant to Boeing, however, is lower than this amount because the tax exemption is also available to, and has been used by, other manufacturers of airplanes and airplane components. For this reason, only a portion of the \$11.5 million applies to Boeing.

500. **Specificity:** The United States notes that although the retail sales and use tax exemptions for computer equipment found in HB 2294 are limited to manufacturers of commercial airplanes and airplane components, the State of Washington has a similar exemption for all manufacturers in the State of Washington on the purchase of manufacturing “machinery and equipment” used directly in a “manufacturing operation” or a research and development operation.⁶⁷⁷ Computer equipment, however, does not qualify for this broader, general exemption because is not used *directly* in a manufacturing operation.

b. Construction services and equipment

501. The sales and use tax exemptions for construction services and equipment under HB 2294 provide, respectively:

⁶⁷⁴ HB 2294 § 10 (Exhibit EC-54); RCW 82.12.975 (Exhibit US-199).

⁶⁷⁵ Washington State Department of Revenue Final HB 2294 Fiscal Note - 20-Year Spreadsheet (Exhibit US-184).

⁶⁷⁶ Washington State Department of Revenue Final HB 2294 Fiscal Note - 20-Year Spreadsheet (Exhibit US-184). Of this \$66.2 million in B&O tax credits, \$43.8 million is for preproduction development expenditures, \$20 million is for computer equipment, and \$2.4 million is for property taxes.

⁶⁷⁷ RCW 82.08.02565 (Exhibit US-200); RCW 82.12.02565 (Exhibit US-201).

(1) The tax levied by RCW 82.08.020 shall not apply 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 not otherwise eligible for the exemption under RCW 82.08.02565(2)(b).⁶⁷⁸

...

(1) The provisions of this chapter do not apply with respect to the use of tangible personal property that will be incorporated as an ingredient or component of new buildings by a manufacturer engaged in the manufacturing of superefficient airplanes or owned by a port district and to be leased to a manufacturer engaged in the manufacturing of superefficient airplanes, during the course of constructing such buildings, or to labor and services rendered in respect to installing, during the course of constructing, building fixtures not otherwise eligible for the exemption under RCW 82.08.02565(2)(b).⁶⁷⁹

502. These provisions provide sales and use tax exemptions for construction services purchased or used for labor, services, and tangible personal property that are used in the construction of new buildings used for the manufacture of superefficient airplanes.

503. The EC's claim that the tax exemptions for construction services and equipment provide WTO-inconsistent subsidies to Boeing lacks merit because Boeing has not used and will not use this tax exemption. As such, there is no financial contribution and no subsidy to Boeing.

504. The sales and use tax exemptions for construction services were included in HB 2294 in the event a manufacturer of superefficient airplanes constructed new buildings or leased such buildings from a port district to carry out such manufacturing. Boeing has done neither. Boeing considered constructing new facilities in either Moses Lake or Everett to assemble the 787, but it ultimately decided to perform its 787 assembly work at *existing* facilities that it owns in Everett. Boeing informs us that it has no plans to construct any such buildings in the future, and it has no plans to enter any type of lease with a port district relating to its 787 assembly work. By the terms of HB 2294, therefore, Boeing is not eligible to take these tax exemptions.

505. The State of Washington has not foregone any revenue with respect to these tax exemptions⁶⁸⁰ and, therefore, there is no financial contribution. Indeed, the State of Washington

⁶⁷⁸ HB 2294 § 11 (Exhibit EC-54); RCW 82.08.980 (Exhibit US-202).

⁶⁷⁹ HB 2294 § 12 (Exhibit EC-54); RCW 82.12.980 (Exhibit US-203).

⁶⁸⁰ Washington State Department of Revenue Final HB 2294 Fiscal Note - 20-Year Spreadsheet (Exhibit (continued...))

considers the exemptions to have no value.⁶⁸¹ As a result, the construction services and equipment tax exemptions provide no WTO-inconsistent subsidy to Boeing.

4. *Leasehold excise tax exemption*

506. In certain circumstances, the State of Washington also imposes a leasehold excise tax, which is a tax on the use of public property by private or commercial businesses. This tax is levied in lieu of a property tax. HB 2294 provides:

(1) All leasehold interests in port district facilities exempt from tax under section 11 or 12 of this act and used by a manufacturer engaged in the manufacturing of superefficient airplanes, as defined in section 17 of this act, are exempt from tax under this chapter.⁶⁸²

In other words, this provision grants a tax exemption for leasehold interests in port district facilities used for manufacturing superefficient airplanes, where the lessee qualifies for the retail sales and use tax exemptions for construction equipment and services specified in Sections 11 and 12 of HB 2294.

507. Contrary to the EC's claim,⁶⁸³ HB 2294's leasehold excise tax exemption does not confer a WTO-inconsistent subsidy on Boeing because Boeing has not and will not use this exemption. HB 2294 included this tax exemption in the event that a manufacturer of superefficient airplanes entered a sale-leaseback agreement with a port district in the State of Washington with respect to such manufacturing facilities. In other words, as the name and language suggest, this tax exemption is only available for leasehold interests. Where there is no leasehold interest, there can be no leasehold tax exemption.

508. Although the Master Site Agreement states that the Port of Everett will purchase nine acres of Boeing land and lease this land back to Boeing,⁶⁸⁴ that, in fact, has not occurred. Boeing has not entered and informs us that it does not intend to enter, a sale-leaseback arrangement for its 787 assembly facilities. Rather, as stated above, it will assemble the 787 in existing facilities that it owns in Everett. For that reason, the leasehold tax exemption will not be used by Boeing, and the State of Washington has not foregone any revenue under this

⁶⁸⁰(...continued)
US-184).

⁶⁸¹ Washington State Department of Revenue Final HB 2294 Fiscal Note - 20-Year Spreadsheet (Exhibit US-184).

⁶⁸² HB 2294 § 13 (Exhibit EC-54); RCW 82.29A.137 (Exhibit US-204).

⁶⁸³ ECFWS, paras. 122-125.

⁶⁸⁴ Project Olympus Restatement of Commitments, p. 6 (Exhibit EC-71).

provision.⁶⁸⁵ Thus, there has been and will be no financial contribution as a result of the leasehold excise tax exemption and no WTO-inconsistent subsidy.

5. Property tax exemptions

509. The State of Washington imposes a property tax on all real and personal property based on the market value of that property, unless specifically exempted by law. HB 2294 contains a property tax exemption that provides:

Effective January 1, 2005, all buildings, machinery, equipment, and other personal property of a lessee of a port district eligible under sections 11 and 12 of this act, used exclusively in manufacturing superefficient airplanes, are exempt from property taxation. A person taking the credit under section 15 of this act is not eligible for the exemption under this section.⁶⁸⁶

510. Like the leasehold tax exemption, this provision grants a property tax exemption to lessees of port district facilities used for the manufacture of superefficient airplanes where the lessee qualifies for the retail sales and use tax exemptions for construction equipment and services specified in Sections 11 and 12 of HB 2294. This exemption is unavailable to persons claiming a B&O tax credit for property taxes paid.

511. The EC maintains that Boeing's sale-leaseback arrangement with the Port of Everett qualifies it for this property tax exemption.⁶⁸⁷ Like the leasehold excise tax exemption, HB 2294 contained a property tax exemption in the event that a manufacturer of superefficient airplanes elected to enter a sale-leaseback agreement with a port district in the State of Washington with respect to such manufacturing facilities. But as explained above, Boeing has not entered into and informs us that it does not intend to enter a sale-leaseback arrangement for its 787 assembly facilities. As such, the State of Washington has foregone no revenue otherwise due pursuant to this provision,⁶⁸⁸ and no financial contribution has been made. For this reason, the property tax exemption found in HB 2294 does not confer a WTO-inconsistent subsidy on Boeing.

6. City of Everett B&O tax rate reduction

512. The City of Everett imposes a Business and Occupation tax similar to the Washington State B&O tax. The tax applies to all businesses located within the city limits. Specifically, the

⁶⁸⁵ Washington State Department of Revenue Final HB 2294 Fiscal Note - 20-Year Spreadsheet (Exhibit US-184).

⁶⁸⁶ HB 2294 § 14 (Exhibit EC-54); RCW 84.36.655 (Exhibit US-105).

⁶⁸⁷ ECFWS, para. 129.

⁶⁸⁸ Washington State Department of Revenue Final HB 2294 Fiscal Note - 20-Year Spreadsheet (Exhibit US-184).

City of Everett imposes a 0.1 percent tax rate on the value of products manufactured within the city. In the spring of 2004, the City of Everett passed Ordinance 2759-04, which implemented the B&O tax rate reduction that the EC contests. This tax rate reduction is not a subsidy to Boeing because there is no financial contribution, and in any event, the tax rate reduction is not specific to Boeing.

513. Under Ordinance 2759-04, the applicable B&O tax rate for “every person engaging within the city in business as a manufacturer” is as follows:

Time Period	Tax Rate
January 1, 2006 to December 31, 2009	0.1 percent for the first \$6 billion in value of products manufactured and 0.025 percent thereafter
January 1, 2010 to December 31, 2015	0.1 percent for the first \$7 billion in value of products manufactured and 0.025 percent thereafter
January 1, 2016 to December 31, 2023	0.1 percent for the first \$8 billion in value of products manufactured and 0.025 percent thereafter
January 1, 2024	0.1 percent ⁶⁸⁹

514. **Financial contribution:** To begin, the City of Everett’s B&O tax rate reduction is not a financial contribution because the City is not foregoing any revenue “otherwise due” under Article 1.1(a)(1)(ii) of the SCM Agreement. Since this tax rate reduction applies to all entities engaged in manufacturing in the City, it is not the case that any revenue foregone would have been “otherwise due.”⁶⁹⁰

515. **Specificity:** While it is true that Ordinance 2759-04 mentions Boeing as a beneficiary of the tax reduction, the ordinance itself is not specific under Article 2.1(a) as the EC alleges⁶⁹¹

⁶⁸⁹ City of Everett Ordinance 2759-04 at § 3(B) (Exhibit EC-61).

⁶⁹⁰ If, however, the Panel disagrees that there is no financial contribution, any amount of this financial contribution is small. As discussed in Section XI(B)(1)(b), the amount of the financial contribution arising from “revenue foregone” that is otherwise due under Article 1.1(a)(1)(ii) of the SCM Agreement includes only revenue that has *actually* been foregone by a government. It does not include revenue that is *projected* or *expected* to be foregone in the future. Contrary to the EC’s estimate of the financial contribution as \$67.5 million from FY 2006 to FY 2023, ECFWS, para. 153, any financial contribution cannot exceed \$5.5 million – the amounts from FY 2006 and FY 2007. State and Local Subsidies to Boeing LCA Division, pp. 1-2 (Exhibit EC-27).

⁶⁹¹ ECFWS, paras. 159-160. The EC’s statement that “B&O tax rate reduction is explicitly limited to

(continued...)

because it is in no way limited to Boeing. Rather, the ordinance applies to “every person engaging within the city in business as a manufacturer.”⁶⁹² The City of Everett’s B&O tax reduction is a neutrally worded tax measure with broad applicability that is available to other large businesses.

516. Indeed, Ordinance 2759-04 contains objective criteria that render it non-specific under Article 2.1(b). The City of Everett’s B&O tax reductions apply to “every person engaging within the city in business as a manufacturer” that meet the monetary values for manufactured products set forth in the ordinance.⁶⁹³ For instance, from calendar years 2006 through 2009, any manufacturer that produces more than \$6 billion in products is eligible for the reduced B&O tax rate on the value of its products that exceed \$6 billion.

* * * * *

517. In conclusion, the EC is mistaken in its claims that tax measures enacted by the State of Washington, and the City of Everett, provide WTO-inconsistent subsidies to Boeing. The reduction in the B&O tax rate for aerospace manufacturing is not a subsidy to Boeing because it served to bring aerospace manufacturing effective tax rate closer to the average effective tax rate of other business activities in Washington. The EC also contests other small tax measures, such as B&O tax credits, leasehold excise tax exemptions, and property tax exemptions. But most of even these tax measures are not subsidies at all, and those that are subsidies either are not actionable or are too small to cause adverse effects.

⁶⁹¹(...continued)

Boeing,” ECFWS, para. 159, is unfounded. Nowhere does Ordinance 2759-04 contain such a limitation.

⁶⁹² City of Everett Ordinance 2759-04 at § 3(B) (Exhibit EC-61).

⁶⁹³ City of Everett Ordinance 2759-04 at § 3(B) (Exhibit EC-61).

XI. THE INFRASTRUCTURE AND OTHER MEASURES REFERENCED IN THE WASHINGTON STATE PROJECT OLYMPUS MASTER SITE AGREEMENT ARE NOT WTO-INCONSISTENT SUBSIDIES.

518. The EC challenges certain programs described in the Project Olympus Master Site Agreement (“Master Site Agreement”), a document signed by Boeing and the State of Washington, Snohomish County, the City of Everett, and certain other local government parties that reflected existing and planned treatment of aerospace companies located in Washington. The Master Site Agreement encapsulates some of the existing government programs and efforts undertaken pursuant to State law that may be relevant to Boeing’s needs.

519. Specifically, the EC’s claims pertain to: (1) two road improvement projects contemplated by the State on major public highways; (2) improvements to the Port of Everett – a busy port used by many industries; (3) utility rates for which Boeing pays the same price as other users; (4) the payment of certain landing fees at a municipal airport that are already covered by an agreement between the airport and Boeing; (5) State employees who provide regulatory and other assistance to Boeing in the normal course of their employment; (6) certain litigation costs that could arise from the Master Site Agreement; (7) alleged tax breaks from which Boeing receives no benefit and; (8) certain job training measures and an employment center that will revert to public use.

520. In fact, none of the eight provisions of the Master Site Agreement of which the EC complains are actionable subsidies within the meaning of the SCM Agreement. Each EC claim fails under one or more of the SCM Agreement’s requirements for a potentially actionable subsidy – (1) a financial contribution, (2) that confers a benefit, and (3) is specific.

A. Road Infrastructure Improvements

521. The EC claims that two road improvement projects undertaken by the State of Washington constitute actionable subsidies to Boeing.⁶⁹⁴ But even a cursory examination of the facts demonstrates that the roads (and their improvements) provide quintessential general infrastructure and are, therefore, not subsidies under the SCM Agreement. They are open to all and serve a broad range of people, businesses, and communities.

522. Of the numerous road and other transportation improvement projects in which the State of Washington is engaged, the EC focuses on two in the vicinity of Boeing facilities. The first project – the “I-5 Expansion Project” – involves widening freeway lanes and extending the High Occupancy Vehicle (“HOV”)⁶⁹⁵ lanes on Interstate 5 (“I-5”) between State Route (“SR”)

⁶⁹⁴ ECFWS, paras. 210-238.

⁶⁹⁵ HOV lanes encourage use of mass transit and ride sharing by providing faster travel times for vehicles with multiple passengers.

526 and U.S. Highway 2.⁶⁹⁶ I-5 is the major north-south highway on the West Coast of the United States and runs between the Canadian and Mexican border.

523. The second project – the “SR 527 Expansion Project” – will add another lane in each direction on State Route 527 (“SR 527”) in the stretch of highway from 112th Street NE in the north to 132nd Street NE in the south.⁶⁹⁷ SR 527 is a major thoroughfare between the I-5 and Interstate 405 freeways.

524. The EC suggests that the State of Washington created the two road improvements projects specifically for Boeing’s benefit as part of the Master Site Agreement. But, that is not the case. Since the 1990s, the State of Washington, specifically the Washington State Department of Transportation (“WSDOT”), has sought to address problems of increasing congestion, decreasing safety, and environmental degradation in the State and local transportation system.⁶⁹⁸

525. In 1998, the Washington State legislature and the Governor established the Blue Ribbon Commission on Transportation to conduct a comprehensive analysis of the State’s transportation needs and priorities. The Commission’s November 2000⁶⁹⁹ final report included a recommendation to fix the worst congestion choke points in the State. Two projects that the report identified as priorities were the I-5 Expansion Project and the SR 527 Expansion Project.⁷⁰⁰ The report also concluded that increasing congestion in urban areas posed a threat to the economic well-being of the entire State and projected that in 20 years, “congestion will also

⁶⁹⁶ The EC repeatedly refers to SR 526 as the “Boeing Freeway.” This name is correct, but it merely refers to the Boeing plant’s status as an easily identifiable landmark on SR 526. SR 526 is, in fact, a public road that is used by thousands of local residents, business, and tourists. It is also one of the two primary access points to the ferry system at Mukilteo, which experiences heavy residential and business traffic. The SR 526 access ramp is “also used by other industrial entities in the vicinity, such as Fluke Manufacturing, and others in southwest Everett.” Master Site Agreement, Exhibit C-9 (Exhibit EC-58). In any event, the two road improvement projects that EC contests do not make any improvements to SR 526, but are *near* SR 526.

⁶⁹⁷ WSDOT Projects: Map SR 527 Widening 132 St. SE to 112 St. SE (Exhibit US-206); SR 527 -132 St. SE to 112 St. SE (Exhibit US-207); SR 527 Route Development Plan (Exhibit US-208).

⁶⁹⁸ Local Roadways: The County System” (Oct. 19, 2004) (Exhibit US-209); Local Roadways: The City System (Oct. 19, 2004) (Exhibit US-210); Congestion in Washington (April 22, 2004) (Exhibit US-211); Washington State Highway System Plan: 2003-2022 (Feb. 2002) (Exhibit US-212); State Highway System Plan: 1999-2018 (Jan. 1998) (Exhibit US-213); Puget Sound HOV Pre-Design Studies: Final Report (May 5, 1997) (Exhibit US-214); WSDOT State Highway System Plan: 1997-2016 (March 1996) (Exhibit EC-129).

⁶⁹⁹ Transportation Action: Final Recommendations to the Governor and Legislature (Dec. 2000) (Exhibit US-215). The Blue Ribbon Transportation Commission was tasked with conducting a comprehensive study of the State’s transportation system and recommending ways of allocating transportation resources to satisfy top priorities. In the course of its work, the Commission worked with both national and state transportation experts and the general public to explore and analyze the various challenges posed to the State’s transportation system.

⁷⁰⁰ Transportation Action: Final Recommendations to the Governor and Legislature (Dec. 2000) (Exhibit US-215).

spread and worsen north and south along the entire length of I-5, east of I-90 from Seattle” to Yakima.⁷⁰¹

526. Numerous other WSDOT reports and other documents have noted the serious and pervasive transportation infrastructure problems in Washington, including the two projects challenged by the EC. WSDOT described I-5 in Everett as “one of the state’s most notorious bottlenecks.”⁷⁰² A WSDOT Transportation Plan Update from 2005 noted that the vehicle hours of delay per day from Everett to Seattle on I-5 southbound are particularly bad compared to other routes with delays.⁷⁰³ Even earlier, in 1998, WSDOT recognized the problems on I-5 between SR 526 and Highway 2 and highlighted the need for safety improvement projects on SR 527.⁷⁰⁴

527. Finding the funding to address the many problems identified by the Blue Ribbon Transportation Commission proved difficult. The State made numerous unsuccessful attempts to increase the state gasoline tax to fund high priority transportation infrastructure improvements throughout the State.

528. The “Nickel Package” – a transportation initiative funded primarily by a five cent increase in the gasoline tax – was eventually approved by the State Legislature in 2003. It devotes \$3.9 billion to construct 158 transportation improvement projects around the State of Washington from 2003 to 2013. This money will be used to fund a broad range of projects including highway improvement, highway preservation, ferries, local roads, railways, and public transportation.⁷⁰⁵ The State expects the package to improve conditions for citizens, businesses, and communities throughout the state. Unsurprisingly, it expects Boeing, too, to be able to use the general infrastructure improvement projects funded by the Nickel Package.⁷⁰⁶ But Boeing’s use of general infrastructure improvement projects does not render them actionable subsidies. The I-5 Expansion Project and the SR 527 Expansion Project are not subsidies under the SCM Agreement because there was no financial contribution, and as such,

⁷⁰¹ Transportation Action: Final Recommendations to the Governor and Legislature (Dec. 2000) (Exhibit US-215).

⁷⁰² Accountability: Making Every Dollar Count for Snohomish County, *available at* <http://www.wsdot.wa.gov/Accountability/2005GasTax/Snohomish/Default.htm> (Last visited May 2, 2007) (Exhibit US-216).

⁷⁰³ Washington Transportation Plan Update: Demand-Capacity Imbalance, Moving Freight, p. 79 (April 2005) (Exhibit US-217).

⁷⁰⁴ State Highway System Plan: 1999-2018 (Jan. 1998) (Exhibit US-213).

⁷⁰⁵ “Nickel Package Funding” For Transportation Enacted by the Washington State Legislature (Exhibit US-218).

⁷⁰⁶ The EC quotes Washington State Governor Gary Locke’s statement that “{t}he Boeing final assembly operation depends on the smooth movement of parts and sub-assemblies from suppliers to the factory.” ECFWS, para. 216.

there could be no benefit. If however, the Panel found a financial contribution, the two projects are also not specific.

529. **Financial Contribution:** The EC alleges that Washington State has made a financial contribution, in the form of the provision of goods and services, to Boeing in the amount of \$291 million for road improvements⁷⁰⁷ – \$262.3 million for the I-5 Expansion Project and \$28.9 million for SR 527 Expansion Project.⁷⁰⁸

530. According to Article 1.1(a)(1)(iii) of the SCM Agreement, a financial contribution exists when “a government provides goods or services *other than general infrastructure*.”⁷⁰⁹ The I-5 and SR 527 Expansion Projects are general infrastructure that will benefit thousands of businesses and hundreds of thousands of commuters, not just Boeing and its employees.

531. As previously noted, I-5 is part of the U.S. Interstate Highway System⁷¹⁰ and is the major north-south highway on the West Coast of the United States, running from Canada to Mexico. It is used by countless businesses, tourists, and citizens, all of which are affected by traffic delays and safety concerns. Traffic congestion on I-5 in Everett has been recognized as one of the worst “choke points” in the State.⁷¹¹ This is not just a Boeing problem. Severe traffic congestion on I-5 is not limited to weekdays, when the Boeing plant is fully operational; traffic problems persist on I-5 at the location of the road expansion even on weekends. Saturday traffic volumes are 98 percent of weekday volumes, and even Sunday volumes are 83 percent of weekday volumes.⁷¹²

532. One of the EC’s exhibits, a WSDOT website, provides a succinct explanation of the necessity of the I-5 Expansion Project:

Thousands of vehicles merging on and off I-5 at Broadway, 41 Street, Pacific Avenue, and Highway 2 and those just passing through create heavy congestion on I-5 through the city of Everett. Backups can be severe and increase the chance of accidents... This project is a step in the right direction to help fix one of our state’s most notorious bottlenecks... Modifying the I-5/41 Street

⁷⁰⁷ ECFWS, para. 211.

⁷⁰⁸ ECFWS, para. 229.

⁷⁰⁹ Emphasis added.

⁷¹⁰ The U.S. Interstate Highway System runs throughout the country and is used by the country as a whole. All persons traveling on roadways in the United States may use this system, and it does not cater to the needs of individual companies.

⁷¹¹ Transportation Action: Final Recommendations to the Governor and Legislature (Dec. 2000) (Exhibit US-215).

⁷¹² Traffic on I-5 Near Everett (Exhibit US-219).

Interchange will help make transition from the freeway to city streets safer and will get drivers where they want to go quicker and with less frustration.⁷¹³

533. The expansion of SR 527 also constitutes general infrastructure. The need for improvements to SR 527 between 112th Street and 132nd Street had been recognized well before any Boeing expansion project and had been planned by WSDOT for years.⁷¹⁴ WSDOT has noted that:

SR-527 functions as a principal arterial highway. Developments within the corridor are mostly residential and commercial. There has been a large increase in traffic volumes, and future growth is forecast to increase at a 3.5% annual rate.⁷¹⁵

The accident and fatality rates along SR-527 were also higher than the state average prior to the completion of the expansion.⁷¹⁶ Furthermore, based on the WSDOT's standards for a single-lane highway, traffic on SR 527 was too heavy, and a multi-lane highway was needed even before the 2003 Nickel Package.⁷¹⁷ The improved stretch of SR 527 will increase safety, particularly from rear-end collisions, cut congestion in half, and as a result of environmental improvements, reduce flooding and erosion and improve water quality in the area.

534. Although in a recent dispute, the EC pointed to a “public road” as an example of general infrastructure, here, it claims that the improvements to I-5 and SR 527 – both public roads – are “part of a tailor-made package for Boeing to improve the transportation infrastructure only in the vicinity of the Boeing Everett facility.”⁷¹⁸ This is simply untrue. The Nickel Package covers more than 150 sites throughout the State.

535. The EC also notes that work on I-5 and SR 527 coincided with the beginning of the 787 program and that the State legislature “had rejected previous efforts to improve these same roads.”⁷¹⁹ Nowhere do the two reports cited by the EC so much as indicate that the State legislature had previously rejected funding to expand I-5 and SR 527.⁷²⁰ In fact, one of the

⁷¹³ I-5/SR-526 Project Website (Exhibit EC-118).

⁷¹⁴ SR 527 Route Development Plan (Exhibit US-208).

⁷¹⁵ SR 527 Route Development Plan, p. 3 (Exhibit US-208).

⁷¹⁶ SR 527 Route Development Plan, p. 12 (Exhibit US-208).

⁷¹⁷ WSDOT Calculations of Average Daily Traffic on SR 527 (Exhibit US-220) (showing annual Average Daily Traffic (“ADT”) on SR 527. When ADT is greater than 20,000-22,200, WSDOT general practice is that a multi-lane highway is needed. Since 2002, ADT on SR 527 has been well above this figure).

⁷¹⁸ ECFWS, para. 227.

⁷¹⁹ ECFWS, para. 227.

⁷²⁰ Puget Sound HOV: Pre-Design Studies Final Report and Exhibit EC-129, WSDOT State Highway

reports recommends expanding I-5 around Everett.⁷²¹ The second report makes clear that WSDOT was well aware of traffic problems in the Everett area, including I-5 and SR 527 over a decade ago.⁷²² The State legislature did not “reject” funding for the I-5 and SR 527 Expansion Projects until Boeing came along; the failure to fund these projects was part of a pervasive statewide problem in funding transportation infrastructure, and the ultimate funding of the projects was part of a broad infrastructure solution for the State.

536. Contrary to the EC’s contention, there is simply no question that the two road improvement projects at issue – the I-5 Expansion Project and the SR 527 Expansion Project – constitute quintessential general infrastructure. As such, the State of Washington has made no financial contribution to Boeing.

537. **Benefit:** Given that there is no financial contribution from the I-5 and SR 527 Expansion Projects because these two projects are general infrastructure, there is no benefit to Boeing within the meaning of the SCM Agreement.

538. **Specificity:** If the Panel determines that the road improvement projects are a financial contribution, these projects are still not specific under the SCM Agreement. Funding for the first year of the Nickel Package was provided by Section 305(5) of Washington Engrossed Substitute House Bill 1163 (“HB 1163 ”), which specified that money be used “solely for the projects and activities as indicated in the Legislative 2003 Transportation Project List – New Law report transmitted to LEAP⁷²³ on April 27, 2003.”⁷²⁴ That list, in turn, set out 158 improvement projects all over the state, worth a total of \$3.9 billion.⁷²⁵ The I-5 and SR 527 Expansion Projects were only two of those projects. With such a broad reach, the Nickel Package plainly does not benefit a specific enterprise or industry, or group of enterprises or industries.

539. The EC argues that the I-5 and SR 527 Expansion Projects by themselves are specific within the meaning of Article 2.1(a) because they were included in the Master Site

⁷²⁰(...continued)

System Plan: 1997-2016 (Exhibit EC-128).

⁷²¹ Puget Sound HOV: Pre-Design Studies Final Report, p. 6 (Exhibit EC-128).

⁷²² WSDOT State Highway System Plan: 1997-2016 (Exhibit EC-129).

⁷²³ “LEAP” stands for the Legislative Evaluation and Accountability Program Committee. It was created by the Washington State legislature to serve as the legislature’s independent source of information and technology for developing budgets, communicating budget decisions, tracking budget and revenue activity, consulting with legislative committees, and providing analysis on special issues in support of legislative needs.

⁷²⁴ ESHB 1163, 58th Leg., 2003 Reg. Sess. (Wash. 2003) (Exhibit EC-121).

⁷²⁵ Legislative 2003 Transportation Project List – New Law (April 27, 2003) (Exhibit US-221).

Agreement.⁷²⁶ This fact is, however, not relevant to the specificity analysis. Article 2.1(a) requires an inquiry into whether “the granting authority, or the legislation pursuant to which the granting authority operates, explicitly limits access to a subsidy to certain enterprises.” In this case, the legislation in question is HB 1163, and it took effect on May 19, 2003. Thus, Washington State’s commitment under the Master Site Agreement, which was signed on December 19, 2003, merely reflected spending that the State had already committed as part of the overall execution of the Nickel Package.

540. The Panel should also note that Washington State law precludes the interpretation of the Master Site Agreement advanced by the EC. The State Constitution forbids any “gift” of public funds, regardless of their source. Thus, road improvements must serve a “public” (i.e. general infrastructure) purpose to pass Constitutional muster and transportation improvements expenditures that benefit only one company are prohibited. Furthermore, Washington law requires funding priority to be “allocated to the worst traffic choke points in the State.”⁷²⁷ This priority should be based on “the rational selection of projects and services according to factual need and an evaluation of life cycle costs and benefits.”⁷²⁸ Washington’s legislature has intended “to fund projects that provide systematic relief throughout a transportation corridor, rather than spot improvements that fail to improve overall mobility within a corridor.”⁷²⁹

541. The EC further alleges that the two road improvement projects are also specific withing the meaning of Article 2.1(c) of the SCM Agreement because Boeing is their predominant beneficiary.⁷³⁰ But, as explained earlier, the I-5 and SR 527 Expansion Projects are simply two of 158 state-wide transportation infrastructure improvement projects funded by the Nickel Package. This transportation initiative had the broadest possible reach, funding a wide range of projects including highway improvement, highway preservation, ferries, local roads, railways, and public transportation.⁷³¹ These projects benefit people across the State of Washington, as well as visitors using State infrastructure. Even if the Panel looks at the projects in isolation, as the EC suggests, it will recognize that they benefit all of the citizens and businesses in Snohomish County, and all users of I-5 north of Seattle.

542. The EC further asserts that the subsidies were specific to Boeing because only Boeing was able to obtain these subsidies from the State legislature, and prior to the beginning of the

⁷²⁶ ECFWS, para. 235.

⁷²⁷ RCW 47.05.051, Notes, Intent –2002 c 5 (Exhibit US-222).

⁷²⁸ RCW 47.05.010 (Exhibit US-223).

⁷²⁹ RCW 47.05.051, Notes, Intent –2002 c 5 (Exhibit US-222).

⁷³⁰ ECFWS, paras. 236-238.

⁷³¹ “Nickel Package Funding” For Transportation Enacted by the Washington State Legislature (Exhibit US-218).

787 production, the State legislature declined to fund the projects.⁷³² In fact, the EC’s argument proves the opposite. The State’s previous efforts to fund the road improvement projects at issue demonstrates that the State believed that these projects were necessary to alleviate traffic congestion and had widespread benefits for all users of these roads. As discussed above, however, the State had difficulty in funding any transportation infrastructure improvements, and the I-5 and SR 527 Expansion Projects were eventually funded only as part of a broad transportation package that also funded more than 150 other much-needed projects in the State.⁷³³

B. Port of Everett

543. The EC’s claims regarding improvements to the Port of Everett are misguided.⁷³⁴ Like the road improvements contested by the EC, the rail-barge transfer facility is general infrastructure. The South Terminal Expansion has not occurred, and if it does occur, will be general infrastructure, the expenses of which are fully funded through user fees.

1. Rail barge transfer facility

544. The Port of Everett is in the process of completing a rail barge transfer facility that will allow oversized containers to be off-loaded directly from barges onto rail cars. This facility is general infrastructure that will have a broad public use. It is located in southwest Everett near the Everett/Mukilteo boundary and is directly adjacent to the BNSF freight railroad mainline, which provides service between Seattle and Chicago. According to the project’s October 2004 Environmental Impact Statement, an average of 44 trains a day use this corridor. This includes both commuter and freight trains. By 2010, 64 trains per day are projected to use this corridor.

545. In the past, when oversized containers delivered to the Port of Everett were transferred to railcars, the authorities had to shut down the mainline between the Port of Everett’s Marine Terminal and the Japanese Gulch spur for between one and two hours. Trains carrying oversized cargo are only permitted to travel during the daylight hours, when the rail corridor is most heavily used, further compounding the problem. These shutdowns affect all rail traffic on

⁷³² ECFWS, para. 238.

⁷³³ The EC attempts to bolster its specificity claim by claiming – incorrectly – that “Boeing set out the specifications for the transportation upgrades.” ECFWS, para. 237. The EC quotes the Master Site Agreement as saying that DOT and the City should meet the “standards for heavy-duty truck traffic...that Boeing has provided to DOT and the City.” ECFWS, para. 237 (citing the Master Site Agreement at Article 6.11.1). In full, however, the relevant sentence reads, “{a}ll road access improvements shall be designed and constructed in accordance with the American Association of State Highway Transportation Officials and State standards for heavy-duty truck traffic meeting the requirements that Boeing has provided to DOT and the City.” Master Site Agreement at Article 6.11.1. In other words, the road improvements in question were designed and built to pre-existing WSDOT highway standards. The State made no special accommodations for Boeing’s truck traffic.

⁷³⁴ ECFWS, paras. 252-270.

the corridor – both freight and commuter. The new rail barge transfer facility will reduce the time that the mainline is shut down to only 15 minutes.

546. **Financial Contribution:** The State of Washington provided the Port of Everett with \$15.5 million for construction costs for the rail barge transfer facility.⁷³⁵ This funding, however, was insufficient to complete the necessary changes to the facility to make it operational. But even the funding provided by the State of Washington is not a financial contribution under the SCM Agreement because it constitutes general infrastructure.⁷³⁶ Alleviating rail traffic congestion by building a rail barge transfer facility is the type of quintessential general infrastructure project in which governments engage. Facilitating the ability to transport large containerized cargo between barges and industries will help support current and future industrial operations of many companies, including Boeing.

547. **Benefit:** Aside from the fact that the building of the rail barge transfer facility is general infrastructure, and thus no financial contribution exists, Boeing also receives no benefit from these improvements. It is not obtaining goods or services at less than market value. In fact, Boeing will pay any remaining costs that are necessary to make the rail barge transfer facility operational. As noted above, the State of Washington provided the Port of Everett \$15.5 million for this project, but the State's funding was insufficient to complete the project. The Port of Everett estimates that it will cost an additional \$14-\$16 million to make the facility operational.⁷³⁷ Pursuant to an Amended and Restated Facilities and Services Agreement signed by Boeing and the Port of Everett in the fall of 2006, Boeing agreed to cover these costs.⁷³⁸ Specifically, Boeing agreed to reimburse the Port of Everett for the entire additional costs necessary to complete the rail barge transfer facility at 6 percent interest over a 20-year amortization schedule.⁷³⁹ Given that Boeing is paying the balance of the costs required to complete the rail barge transfer facility, it is certainly not receiving access to or use of this facility at less than market value.

548. **Specificity:** The Port of Everett agreed to make these improvements pursuant to Article 6.12.1 and Exhibit C-10 of the Master Site Agreement. But these improvements are not specific to Boeing. The facility is a public facility that will be open to any user. Moreover, it will result in a broad improvement to the rail corridor in the area by alleviating rail traffic congestion. Improved rail traffic flow affects all users of the rail corridor, not just Boeing.

⁷³⁵ Master Site Agreement, Article 6.12.1 and Exhibit C-10 (Exhibit EC-58).

⁷³⁶ SCM Agreement, Article 1.1(a)(1)(iii).

⁷³⁷ Port of Everett-Boeing Amended and Restated Facilities and Services Agreement, Exhibit C (Exhibit US-224).

⁷³⁸ Port of Everett-Boeing Amended and Restated Facilities and Services Agreement (Exhibit US-224).

⁷³⁹ Port of Everett-Boeing Amended and Restated Facilities and Services Agreement, Section 5.2 (Exhibit US-224).

2. *South Terminal expansion*

549. The Port of Everett owns a 27-acre area known as South Terminal, which is adjacent to its Pacific Terminal. Although the Master Site Agreement states that the Port will expand the South Terminal to support direct ships from Japan, the Port has not implemented this provision.⁷⁴⁰ The Master Site Agreement was drafted to capture numerous options, and the Parties to the Agreement understood that not all provisions would be implemented. No work has been done to expand the South Terminal, and there has been no subsidy to Boeing.

550. **Financial Contribution:** Even if the Port decided to expand the South Terminal in the future, there would be no financial contribution because the expansion would be general infrastructure under Article 1.1(a)(1)(iii) of the SCM Agreement. The Port's traffic volume has exploded in recent years from 13 ships in 2004 to 120 ships in 2006.⁷⁴¹ It is on pace to handle 150 ships in 2007. This tenfold increase is unrelated to Boeing, which has shifted to air shipments for components for the 787. With this type of growth, the Port's expansion of the South Terminal is the type of general infrastructure project that government entities often undertake to improve conditions for all users.

551. The Port is currently evaluating whether to expand South Terminal for its new customers. With broad usage, open to all, any such expansion would constitute general infrastructure. But to date, the Port of Everett has expended no funds to expand the South Terminal and has no concrete plans to do so in the future. The EC's allegation that work to expand the South Terminal facility "is expected to begin in 2007" is incorrect

552. **Benefit:** There is no benefit to Boeing because Boeing (and others) pay usage fees, and the Port does not subsidize its customers by charging rates that do not lead to a profit.⁷⁴² Furthermore, the Port is not providing Boeing an advantage on non-market terms because it seeks recovery of its capital and operating costs for all capital improvements to the South Terminal.

553. **Specificity:** If any expansion of the Port eventually occurs, it will not be based on Boeing's needs or expectations, but on whether the Port is able to successfully attract new customers and shipments. As explained above, the Port seeks recovery of its capital and operating costs for all capital improvements to the South Terminal. Thus, the Port will only expand the South Terminal based on an expected return on investment from all potential users. Should the Port choose to expand the South Terminal, the upgraded facility would serve

⁷⁴⁰ Master Site Agreement, Exhibit C-11 (Exhibit EC-58).

⁷⁴¹ Port of Everett, Shipping Terminals, available at <http://www.portofeverett.com/home/index.asp?page=158> (last visited April 30, 2007) (Exhibit US-225).

⁷⁴² 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).

numerous users, including steamship lines that carry all types of cargo to destinations around the United States and the world.

C. Utilities

554. The EC erroneously asserts that Washington has provided a WTO-inconsistent subsidy to Boeing by freezing the rates that it must pay for certain utilities. The EC alleges that the Master Site Agreement requires the City of Everett and Snohomish County to “indefinitely freeze rates at their 2003 levels” for water, sewer, solid waste, and wastewater services.⁷⁴³ The EC fundamentally misunderstands the provisions of the Master Site Agreement. In fact, Boeing pays the same rates as other commercial, industrial, and government customers.

555. The Master Site Agreement states that the “Maximum Aggregate Rates and Fees” for the utilities at issue will be the “applicable regulated tariff rate.”⁷⁴⁴ However, the EC fails to recognize that the “applicable regulated tariff rate” is set by ordinance. Water rates are currently set by Ordinance 2805-04, sewer rates are set by Ordinance 2804-04, and solid waste rates are set by Ordinance 2753-04.⁷⁴⁵ As such, the law requires Boeing to pay the same rates for the utilities at issue as all customers defined as “Commercial/Industrial/Governmental” by city ordinance, which includes all City of Everett retail customers other than residential customers. Moreover, these rates have increased for water, sewer, wastewater, and solid waste disposal since the signing of the Master Site Agreement in 2003,⁷⁴⁶ and Boeing is subject to those higher rates. Thus, the EC has no basis for alleging that the City of Everett and Snohomish County’s utility rates confer a subsidy on Boeing.

556. **Financial contribution:** The EC claims that these utility rates are a financial contribution to Boeing because the City of Everett and Snohomish County forego revenue that they would otherwise collect from Boeing within the meaning of Article 1.1(a)(1)(ii). However, Boeing pays the same rates as other industrial customers. Indeed, charging Boeing a preferential rate would be a violation of State law, which requires that no utility rate be charged “that is less than the cost of the water and service to the class of customers served.”⁷⁴⁷

557. **Benefit:** No benefit is conferred on Boeing. It is not receiving utilities at less than market rates paid by all users.

⁷⁴³ ECFWS, para. 271.

⁷⁴⁴ Master Site Agreement, Exhibits C-1, C-2, C-3, and C-4 (Exhibit EC-58).

⁷⁴⁵ City of Everett Water Ordinance 2805-04 (Exhibit US-227); City of Everett Sewer Ordinance 2804-04 (Exhibit US-228); and City of Everett Solid Waste Ordinance 2753-04 (Exhibit US-229).

⁷⁴⁶ Everett Utilities Rate Tables for 2004, 2006, and 2007 (Exhibit US-230).

⁷⁴⁷ RCW 35.92.010 (Exhibit US-231); RCW 35.92.020 (Exhibit US-232) (for sewage and solid waste, “the rates charged shall be uniform for the same class of customers or service and facilities”).

558. **Specificity:** The utility rates that Boeing pays are not specific within the meaning of Article 2.1(a). The Master Site Agreement requires that Boeing pay the “applicable regulated tariff rate.” As explained above, this rate is the same rate charged to other commercial, industrial, and government customers. Moreover, Washington State law requires that utility rates be non-discriminatory between customers and classes of customers that are similarly situated. It specifically states that utility rates “must be uniform for the same class of customers or service and facilities furnished.”⁷⁴⁸ Thus, the City of Everett and Snohomish County could not provide Boeing preferential utility rates, as the EC claims, without violating state law.

559. Furthermore, because the utility rates are established by ordinance, for which objective criteria exist, these rates are not specific by operation of Article 2.1(b).

D. Waiver of 747 Large Cargo Freighter Landing Fees

560. In the mid-1990s, Snohomish County and Boeing agreed that Boeing would pay a capped annual fee, which escalates \$60,000 per year to account for inflation, for Boeing’s use of Paine Field runway and airfield facilities. The agreement encompassed landings by all Boeing civil aircraft. The 747 Large Cargo Freighter (“LCF”) is one such Boeing aircraft, and as such, was covered by the original agreement.

561. The EC argues that the Master Site Agreement waived the landing fees for Boeing’s 747 LCF.⁷⁴⁹ The Agreement does state that “Snohomish County agrees to modify the existing Boeing agreement to include waiving of all landing fees for 747-400 LCF aircraft.” However, the “waiver” referenced in the Master Site Agreement merely reflects existing practice, under which in exchange for a flat fee, all per-plane fees are waived. Snohomish County and Boeing continue to operate pursuant to a pre-existing agreement.

562. The Agreement between Boeing and the County has a sunset clause, so the parties periodically negotiate extensions. For instance, in December 2002, Boeing and Paine Field extended their Joint Use Agreement from 2003 to 2005. This Agreement specifically stated that it “include {d} the introduction, testing, and production of additional aircraft models with no additional cost to Boeing.”⁷⁵⁰ This extension of the Agreement pre-dated the Master Site Agreement.

563. Another extension of the original agreement between the parties occurred recently, on March 7, 2007. Paine Field and Boeing signed an amendment providing:

⁷⁴⁸ RCW 35.67.020 (Exhibit US-233); RCW 35.92.020 (Exhibit US-232) and RCW 35.92.010 (Exhibit US-231).

⁷⁴⁹ ECFWS, para. 239.

⁷⁵⁰ Boeing-Paine Field Joint Use Agreement Extension of 1996 Amendment through 2003, 2004, and 2005 (Dec. 17, 2002) (Exhibit US-234).

For the years 2007, 2008, 2009, 2010, and 2011, Boeing's total billing will be the lesser of the amount due under the 1995 Formula (Addendum A) or the "Capped Amount." The "Capped Amount" is [***] for year 2007, [***] for 2008, [***] for 2009, [***] for 2010, and [***] for 2011....

Under this extension of the Joint Use Agreement, Boeing is authorized to produce current and additional aircraft models and derivatives with no additional charges for use of the airfield for takeoff and landing for test, evaluation and delivery flights. Additionally, pursuant to the Project Olympus Agreement there will be no additional fees or low fuel flowage charges for 747 Large Cargo Freighter (LCF) operations during flight test or cargo operations.⁷⁵¹

564. **Financial Contribution:** Based on the capped annual fee for landing of all Boeing aircraft, agreed to by Boeing and Snohomish County and Paine Field, as well as the March 7, 2007 Amendment to Joint Use Agreement, it is clear that the County is not foregoing any revenue that it would otherwise collect for landings of the 747 LCF. Nor is Snohomish County providing services to Boeing at no cost; the "waiver" in the Master Site Agreement is part of the fee paid by Boeing. As such, there is no financial contribution.

565. **Benefit:** Boeing receives no benefit from Paine Field for the 747 LCF landing fees because, under the fixed annual fee arrangement, Boeing effectively pays a higher rate than the airport's standard fee for LCA based on landed weight and number of landings. Paine Field's standard landing fee for aircraft weighing over 30,000 lbs is \$1.00 per 1,000 pounds maximum gross landing weight (MGLW).⁷⁵² In 2006, Boeing paid \$[***] million under its contract for landing fees, which is equivalent to \$[***] per 1,000 lbs MGLW landed during that year. This is higher than what Boeing would have been charged had it paid the airport's standard landing fee. Based on Boeing's 2006 MGLW of 201,156,892, it would have paid a total of \$201,157 in landing fees under standard rates, compared to its \$[***] million pursuant to the contract.⁷⁵³

566. **Specificity:** Because there is no benefit to Boeing, specificity is not at issue. In any event, the Agreement regarding the capped annual fee for the landing of all Boeing planes predated the Master Site Agreement.⁷⁵⁴

⁷⁵¹ Boeing-Paine Field Joint Use Agreement (March 7, 2007) (Exhibit US-235).

⁷⁵² Paine Field 2006 Landing Rates (Exhibit US-236).

⁷⁵³ Boeing Landing Summary and Costs at Paine Field (Exhibit US-237).

⁷⁵⁴ Boeing-Paine Field Joint Use Agreement Extension of 1996 Amendment through 2003, 2004, and 2005 (Dec. 17, 2002) (Exhibit US-234).

E. Project Coordinators

567. Pursuant to the Article 3.1 of the Master Site Agreement, to facilitate the establishment of Boeing's 787 facility and consistent with its designation as a Project of Statewide Significance, the State of Washington was to provide Boeing with coordinators to assist the company in satisfying the various regulatory and other requirements related to the creation of its 787 facilities.⁷⁵⁵ Contrary to the EC's claim, the provision of these coordinators is not a subsidy to Boeing within the meaning of the SCM Agreement.⁷⁵⁶

568. **Financial Contribution:** Although the EC would have the Panel believe that the Master Site Agreement provides Boeing with seven "dedicated" coordinators, aside from two Project Coordinators,⁷⁵⁷ these coordinators were not exclusive to Boeing.⁷⁵⁸ Other than the two Project Coordinators, Washington did not hire new coordinators specifically to serve Boeing; the coordinators were existing State employees. The efforts that they undertook to assist Boeing were done in the ordinary course of their employment and constituted only a small portion of their overall work. These employees fulfilled their regular assigned responsibilities assisting constituents, including, but not limited to Boeing. Thus, these employees were supplying services to the State, their employer, by processing requests that Boeing, like any other business located in Washington, was entitled to make to the government.

569. Even the financial contribution of the Project Coordinators for Boeing is *de minimis* at most. The payment of total salaries expended for the Project Coordinator's office during FY 2004 and 2005 was only \$213,600. More importantly, the project coordinator function was terminated on June 30, 2005, and there are no plans to provide any further funding for it.

570. **Benefit:** Boeing receives no benefit under the SCM Agreement for the project coordinators. The State employees who serve as project coordinators are simply doing their jobs. Even absent the existence of Article 3.1 of the Master Site Agreement, State employees would still have been available to assist Boeing in meeting regulatory and other requirements. Boeing is also not receiving a benefit from the Project Coordinator because this office has been closed since June 2005.

571. **Specificity:** Although the provision of project coordinators is mentioned in the Master Site Agreement, any alleged benefit to Boeing is not specific. By law, all Projects of Statewide

⁷⁵⁵ Master Site Agreement, Articles II and 3.1 (Exhibit EC-58).

⁷⁵⁶ ECFWS, para. 166.

⁷⁵⁷ Even these two coordinators were not available to assist Boeing for the full duration of the time in which the State offered these coordinators. One coordinator was hired later than the other.

⁷⁵⁸ ECFWS, para. 166.

Significance⁷⁵⁹ are eligible to receive similar coordination assistance from the State.⁷⁶⁰ In addition, Washington’s Office of Regulatory Assistance frequently provides assistance to businesses of all sizes regarding the State’s complex permitting process. In fact, more than 80 projects have received facilitation and coordination assistance from this office since 2002, when it was first established. Examples of some such projects include the Sound Transit light rail line, the Cardinal Glass manufacturing plant, the Buckhorn goldmine in Okanagon County, a new prison in Connell, a biodiesel facility in Grays Harbor County, and other biodiesel and ethanol projects in Vancouver, Longview, and Benton, Grant, Lincoln, and Spokane counties. Thus, the project coordinators are not specific within the meaning of Article 2.1.

F. Litigation Costs

572. Article 11.3 of the Master Site Agreement deals with legal proceedings brought by third parties regarding the Master Site Agreement. This provision is not a subsidy to Boeing.

573. **Financial Contribution:** Boeing receives no financial contribution under Article 11.3, which calls for the State or local government to “assume the entire defense of such proceedings, including all fees, costs and expenses whatsoever relating thereto.” Contrary to the EC’s claim, this provision does not require Washington to “transfer funds covering the fees, costs, and expenses of the litigation to Boeing” for costs that Boeing may choose to independently incur.⁷⁶¹ The Master Site Agreement gives Boeing the right to retain its own counsel and intervene on its own behalf in any litigation.⁷⁶² Article 11.3 is also not a “litigation risk insurance policy,” as the EC asserts, because it pertains exclusively to the State’s defense of a legal proceeding and not to the cost of any potential damages or liability that may result. Moreover, Washington has not engaged in any legal proceedings under the Master Site Agreement on behalf of Boeing or itself. Therefore, no financial contribution exists. The State also does not expect such proceedings in the future.

574. **Benefit:** The EC argues that the benefit to Boeing of Article 11.3 is the amount “of premium Boeing would be required to pay each year to ensure against such litigation risk in the market.”⁷⁶³ As explained above, however, Article 11.3 is not a litigation risk insurance policy because Washington has not agreed to pay any damages or other potential liability to Boeing under the Agreement.

⁷⁵⁹ A Project of Statewide Significance is a project that has statewide economic impacts. To be designated as such, 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 be located in a county that meets the rural threshold or otherwise requires economic assistance, or have a large regional impact.

⁷⁶⁰ RCW 43.157.030 (Exhibit US-238).

⁷⁶¹ ECFWS, para. 202.

⁷⁶² Master Site Agreement, Articles 11.3.1-11.3.4 (Exhibit EC-58).

⁷⁶³ ECFWS, para. 205.

575. Furthermore, provisions of Article 11.3 are motivated by the State’s self-interest, rather than a benefit to Boeing. In the event of litigation challenging the Master Site Agreement and related legislation or agreements, independent of Article 11.3, the State would defend the Agreement and related legislation.

576. **Specificity:** Because there is no subsidy to Boeing, specificity is not at issue.

G. Tax Measures for the 747 Large Cargo Freighter

577. The EC asserts that the State of Washington is providing tax and other incentives to Boeing’s 747 Large Cargo Freighter (“LCF”) and that these measures constitute actionable subsidies under the SCM Agreement.⁷⁶⁴ The provision of the Master Site Agreement upon which the EC relies provides:

The State and CTED shall ensure {that the} 747-400 Large Cargo Freighter is eligible for all benefits afforded the 7E7 Program and shall facilitate a low cost operating environment for the aircraft through tax abatements and other avenues available through the appropriate state and local governments.⁷⁶⁵

578. **Financial Contribution:** The EC asserts that this clause constitutes a financial contribution by foregoing revenue that is otherwise due. The State of Washington is not providing any special tax incentives to the 747 LCF, and is therefore not foregoing any revenue otherwise due.⁷⁶⁶

579. The EC also asserts that a financial contribution exists because Washington must provide the 747 LCF “the same goods and services it provides to the 787.”⁷⁶⁷ The EC’s claim of financial contribution is baseless, and Exhibit E of the Master Site Agreement contains nothing stating that Washington will provide such goods or services to the 747 LCF.

580. **Benefit and Specificity:** Given the absence of any special tax incentives for the 747 LCF, there is neither benefit nor specificity.

⁷⁶⁴ ECFWS, paras. 189-190.

⁷⁶⁵ Master Site Agreement, Exhibit E (Exhibit EC-58).

⁷⁶⁶ It is true that the 747 LCF is eligible for other tax measures that apply to Washington’s aerospace sector more broadly, such as the B&O tax rate reduction for the manufacture of commercial airplanes and components. These tax measures are discussed in detail in Section X above, and as explained in that section, they do not constitute WTO-inconsistent subsidies to Boeing.

⁷⁶⁷ ECFWS, para. 190.

H. Job Training Incentives: Employment Resource Center and Workforce Development Program

581. As part of the Master Site Agreement, the State of Washington agreed to budget a minimum of \$10 million to provide a 40,000 square foot training facility and workforce development program, including design and implementation of the recruitment, assessment, and pre-employment training services for 800-1,200 final assembly workers.⁷⁶⁸ It also agreed to fund certain job training workforce development (job training) programs for Boeing employees.⁷⁶⁹

582. The EC claims these provisions constitute actionable subsidies to Boeing.⁷⁷⁰ The EC values these subsidies at \$24 million from 2004 to 2007 – \$10 million for the employment resource center and \$14 million for the workforce development program.⁷⁷¹ In fact, any benefit that Boeing received was much smaller than the EC's figure.

583. **Financial contribution:** Pursuant to the Master Site Agreement, Washington agreed to pay a minimum of \$10 million for the creation and establishment of an employment resource center.⁷⁷² But rather than building a new employment resource center, Washington instead chose to lease a facility. This lease will cost \$956,400 per year or \$4.78 million over 5 years, during which Boeing has exclusive use.⁷⁷³ The Center opened in August 2006, or one month into Washington's Fiscal Year 2007. Since the employment resource center was not in operation prior to August 2006 (one month into Washington's Fiscal Year 2007), the financial contribution for the center through December 2006 has only been \$478,200 (half of \$956,400), rather than the \$10 million that the EC claims. As for the workforce development program, the funding for this program is a combination of State and federal funds. The State of Washington provided \$1 million pursuant to a job skills program.

584. **Benefit:** The benefit to Boeing of the employment resource center is only \$478,200 through December 2006. Moreover, Boeing is only entitled to exclusive use of the facility for the first five years, and thus the entire amount of the facility cannot be attributed to Boeing. After 2011, the employment resource center will revert to general public use. Even if Boeing chooses to lease the facility from Washington, it must be open to the aerospace industry generally. This may include many suppliers of Airbus, who would also benefit from use of the facility and related job training programs, which further reduces the benefit to Boeing.

⁷⁶⁸ Master Site Agreement, Article 7.5, Exhibits D-3-D-4 (Exhibit EC-58).

⁷⁶⁹ Master Site Agreement, Article 7.2, Exhibits D-1-D-2 (Exhibit EC-58).

⁷⁷⁰ ECFWS, paras. 175-188.

⁷⁷¹ ECFWS, para. 181.

⁷⁷² Master Site Agreement, Article 7.5, Exhibit D-3 (Exhibit EC-58).

⁷⁷³ Employment Resource Center Lease, p. 3 (Aug. 2005) (Exhibit US-239).

585. **Specificity:** The employment resource center is specific to Boeing only for its first five years of operating; if it continues, it will be available to the general public. The workforce development program is not limited to Boeing because the Master Site Agreement states that it is also open to Boeing suppliers.⁷⁷⁴ Because the skills that are emphasized in the program are transferrable to other industries, it is not specific.

I. “Make Whole” Provision of the Master Site Agreement

586. As a final matter, there is no merit to the EC’s argument in the alternative that a financial contribution exists for each of the eight provisions of the Master Site Agreement that it challenges as a result of the “Make Whole” language found in Article 10.4.1. The EC alleges that the eight provisions discussed above all constitute financial contributions by the government because the Master Site Agreement requires the State of Washington and other Public Parties to “provide Boeing with a remedy of equivalent economic effect” if they cannot fulfill their original agreement, and this remedy entails a “potential direct transfer of funds” to Boeing.⁷⁷⁵ The EC asserts that all of the commitments found in the Master Site Agreement are “guaranteed to Boeing” under the terms of the Agreement.⁷⁷⁶

587. The EC fundamentally misunderstands Article 10.4.1 of the Master Site Agreement. Article 10.4.1 does not “guarantee” that the State of Washington and other Public Parties to the Agreement will meet every commitment in the Agreement or compensate Boeing accordingly. Rather, this provision merely explains that Washington and the other Public Parties to the Agreement will “exercise their best efforts” to fulfill their commitments and provide Boeing the economic benefit of its bargain.⁷⁷⁷ Moreover, Article 10.4.1 explicitly states that the parties will meet their obligations “to the extent permitted by law.” In other words, it is clear that the parties are bound to follow State law. This is made even clearer when read in conjunction with Article 10.6.6 of the Master Site Agreement, which provides that “{t}he parties hereby agree to use best efforts to perform all commitments to the maximum extent authorized by current laws and in full compliance with applicable laws and constitutional provisions.”⁷⁷⁸

588. Accordingly, the “Make Whole” provision of Article 10.4.1 of the Master Site Agreement has no independent economic value. It is simply a “best efforts” provision that encourages the Parties to comply with their commitments to the extent legally permissible. It cannot be construed as a financial contribution to Boeing.⁷⁷⁹

⁷⁷⁴ Master Site Agreement, Article 7.2.1 (Exhibit EC-58).

⁷⁷⁵ ECFWS, paras. 167, 180, 193, 202, 228, 243, 258, and 275.

⁷⁷⁶ ECFWS, para. 93 (citing Master Site Agreement at Article 10.4.1).

⁷⁷⁷ Master Site Agreement at Article 10.4.1 (Exhibit EC-58).

⁷⁷⁸ Master Site Agreement at Article 10.6.6 (Exhibit EC-58).

⁷⁷⁹ ECFWS, paras. 167, 180, 193, 202, 228, 243, 258, and 275.

XII. THE STATE OF KANSAS' TAX MEASURES ARE NOT ACTIONABLE SUBSIDIES.**A. City of Wichita Industrial Revenue Bonds (IRBs) Are Not Actionable Subsidies.**

589. The EC challenges bonds issued by the City of Wichita as an ongoing actionable subsidy to Boeing, despite the fact that Boeing ceased LCA operations in Kansas in 2005. Before that time, Boeing – like many companies in Kansas – used bond financing pursuant to a widely available and long-standing economic incentive program. The EC attempts to minimize the significance of these facts by, on the one hand, distorting the nature of the bond program, and, on the other hand, asserting that the post-2005 benefits have been “passed through” to Boeing based on an economist’s opinion not grounded in the facts of this case. The EC’s subsidy claims regarding the Wichita bonds must accordingly fail.

590. In setting forth its theory regarding the bond program, the EC distorts the situation in the State of Kansas, claiming:

- The Kansas bond issuances are a “complex scheme” (para. 285), “complicated financial scheme” (para. 293), “elaborate scheme” (para. 301) used as a “guise” (para. 285) to provide Boeing subsidies;
- The bonds issued on behalf of Boeing were designed in a “unique” manner (para. 313);
- Boeing purchased the bonds for its own account, contrary to the “traditional use of bond financing” (para. 295) and “in stark contrast to other, much smaller IRB issuances made by the City of Wichita, which actually are used as financing vehicles” (Annex A, para. 20);
- Boeing and Spirit AeroSystems – the entity that purchased Boeing’s commercial airplane assets in Wichita in 2005⁷⁸⁰ – have an ongoing “special relationship” (para. 291), and Spirit’s ongoing use of IRBs “benefits all Boeing LCA given the ongoing relationship between Boeing and Spirit” (para. 317).

These characterizations are unfair and inaccurate.

591. The “complex scheme” of using IRBs as a tax incentive is a transparent and generally available program, provided for in Kansas law, that the State of Kansas and its subdivisions have been administering and applying to companies from a broad range of industries based on objective criteria for more than 40 years.

⁷⁸⁰ Boeing’s commercial business in Wichita was purchased in 2005 by Onex Partners, LP, a private equity firm, which renamed the business Spirit AeroSystems Inc. For ease of reference, we refer to the 2005 transaction as having occurred between Boeing and Spirit.

592. Boeing is by no means unique in choosing to buy bonds that have been issued on its behalf. The generally applicable Kansas IRB law allows for this structure. It is the choice of the company using IRBs whether to hold the bonds itself or instead have them placed with investors or the public. In fact, many companies have chosen to hold the IRBs issued on their behalf – just as Boeing did.

593. Finally, the EC’s description of Spirit’s “special relationship with Boeing”, and assertion that even indeterminate future subsidies will redound to Boeing’s benefit, ignores the very close relationship between *Airbus* and Spirit. In addition to being an important supplier to Boeing, Spirit is now Airbus’ largest airframe supplier⁷⁸¹ having acquired the airstructure business unit of BAE Systems (until 2006, a 20 percent shareholder in Airbus).⁷⁸² In fact, Spirit now supplies more to Airbus than Boeing.⁷⁸³ Further, it is important to note that future measures would not be in existence at the time this Panel was established and therefore would not be within the Panel’s terms of reference.

1. The IRBs are not a financial contribution, as the City of Wichita is not foregoing revenue on personal property.

594. The EC asserts that as a result of the IRBs, the State of Kansas, Sedgwick County, the City of Wichita, and local school districts have foregone property and sales tax revenue that they otherwise would have collected from Boeing and Spirit. However, as of July 1, 2006, Kansas no longer assesses property tax on commercial and industrial machinery and equipment,⁷⁸⁴ and in 2000, Kansas stopped assessing sales tax on such machinery and equipment.⁷⁸⁵ Even without the IRBs, no tax revenue would be due to Kansas or its subdivisions from any business on its machinery and equipment, which represents most of the property that Boeing and Spirit have financed with IRBs.

⁷⁸¹ Spirit Aerosystems Inc. website, available at <http://www.spiritaero.com/aero.aspx?id=50> (last visited April 28, 2007) (Exhibit US-240).

⁷⁸² Spirit Aerosystems Inc., “Spirit AeroSystems Agrees to Purchase BAE Systems Aerostructures”, Press Release (Jan. 31, 2006) (Exhibit US-241).

⁷⁸³ Spirit Aerosystems Holdings, Inc., Investor Day Presentation (March 29-30, 2007), pp. 8, 12 (Exhibit US-242) (“Investor Day Presentation”).

⁷⁸⁴ Kansas Department of Revenue, “Property Tax Abatements,” available at <http://www.ksrevenue.org/taxincent-proptaxabate.htm> (Exhibit US-243); Kan. Stat. Ann. § 79-223 (Exhibit US-244).

⁷⁸⁵ Kansas Department of Revenue, *Exemptions from Sales Tax*, <http://www.ksrevenue.org/taxcredits-sales.htm> (Exhibit US-245); Kan. Stat. Ann. § 79-3606(kk)(1) (Exhibit US-246). Under this law, any sale of machinery and equipment used in Kansas as an integral or essential part of an integrated production operation by a manufacturing or processing plant or facility is exempt from sales tax.

595. As the EC notes, the vast majority of property acquired by Boeing with its IRB proceeds was personal property, not real property.⁷⁸⁶ The same has been true for Spirit. Thus, the vast majority of property acquired would be tax exempt in any event; no government revenue on this property is being foregone as a result of the IRBs. There is accordingly no financial contribution under Article 1.1(a)(1)(ii) with respect to the vast majority of property identified by the EC.

2. IRBs are not specific and thus not an actionable subsidy.

596. The SCM Agreement makes actionable only those subsidies that are “specific.” As the panel in *U.S. – Lumber* noted, “Article 2 {of the} SCM Agreement is concerned with the distortion that is created by a subsidy which either in law or in fact is not broadly available.”⁷⁸⁷ The *U.S. – Cotton* panel similarly noted that “the concept of ‘specificity’ in Article 2 of the SCM Agreement serves to acknowledge that some subsidies are broadly available and widely used throughout an economy and are therefore not subject to the Agreement’s subsidy disciplines.”⁷⁸⁸ The Wichita IRBs are both broadly available and widely used and, thus, are not specific within the meaning of Article 2.

a. Wichita IRBs are broadly available and, therefore, de jure non-specific.

597. Like many governments, the City of Wichita offers property tax abatements to encourage job creation and significant investment in the community – not to support a particular company or industry. It does so under long-standing provisions of Kansas law, pursuant to which cities and counties across Kansas have issued bonds and provided tax abatements to a broad swath of the economy.

598. The Kansas statute providing for IRBs⁷⁸⁹ and related Kansas law on taxation⁷⁹⁰ (“IRB Law”) have been in effect for more than 45 years. The IRB Law authorizes cities and counties in Kansas to issue IRBs in connection with the acquisition of, or improvements to, business facilities.⁷⁹¹ The bond issuer – the city or county – is considered the owner of the facilities, and

⁷⁸⁶ ECFWS, para. 314 & n.500 (noting that a “substantial amount of the property Boeing acquired with its IRB proceeds was personal property”, and noting that of the \$96 million IRBs used by Boeing in 2002, it applied \$92.6 million to personal property).

⁷⁸⁷ *United States – Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada*, Report of the Panel, WT/DS257/R, paras. 7, 116 (adopted Feb. 17, 2004).

⁷⁸⁸ *United States – Subsidies on Upland Cotton*, Report of the Panel, WT/DS267/R, para. 7.1143 (Sept. 8, 2004).

⁷⁸⁹ Kan. Stat. Ann. § 12-1740 *et seq.* (Exhibit EC-167).

⁷⁹⁰ Kan. Stat. Ann. § 79-201a (Exhibit EC-742).

⁷⁹¹ The amount of the bond issuance may not exceed the cost of the assets at issue. Kan. Stat. Ann. § 12- (continued...)

the company leases those facilities from the issuer during the period the IRBs remain outstanding, after which time title to the property is transferred to the company. The property that is financed with the IRBs is exempt from taxation under Kansas law for ten years, except retail property, property located in redevelopment areas, and certain agricultural property.⁷⁹² The law does not restrict the identity of the bondholders.

599. Under the IRB Law, any city or county in Kansas may issue IRBs and enter into lease-purchase agreements with “any person, firm, or corporation.”⁷⁹³ Such broad availability is consistent with the law’s purpose, which is to promote the welfare of Kansas citizens by attracting business activity generally to the State.⁷⁹⁴

600. The City of Wichita has adopted an economic development incentive policy to guide its decisions whether to issue IRBs and provide other economic incentives. The policy states that the “appropriate purpose and use of incentives is to broaden and diversify the tax base, create new job opportunities for the citizens of the City of Wichita and Sedgwick County, and promote the economic growth and welfare of the City of Wichita and Sedgwick County.”⁷⁹⁵

601. Reflecting the IRB Law, the City of Wichita policy provides for broad eligibility, with incentives available to businesses in the following sectors: manufacturing; service sector where a majority of revenues are derived from transactions originating outside Kansas; research and development; warehousing and distribution; corporate headquarters; transportation; commercial redevelopment; tourism; affordable housing; and medical services.⁷⁹⁶ And among the objective criteria listed for approval, the policy provides that the ratio of public benefits to public costs should not be less than 1.3 to one.⁷⁹⁷

(...continued)

1745 (Exhibit EC-167).

⁷⁹² Kan. Stat. Ann. § 79-201a (Exhibit EC-742) (Property exempt from property and *ad valorem* taxes).

⁷⁹³ Kan. Stat. Ann. § 12-1740 (Exhibit EC-167).

⁷⁹⁴ Kan. Stat. Ann. § 12-1740 (Exhibit EC-167). Specifically, the law states that it is designed to: promote, stimulate and develop the general welfare and economic prosperity of the state of Kansas through the promotion and advancement of physical and mental health, industrial, commercial, agricultural, natural resources and of recreational development in the state; to encourage and assist in the location of new business and industry in this state and the expansion, relocation or retention of existing business, industry and health development; and to promote the economic stability of the state by providing greater employment opportunities, diversification of industry and improved physical and mental health, thus promoting the general welfare of the citizens of this state.

⁷⁹⁵ City of Wichita/Sedgwick County Economic Development Incentive Policy, p. 1 (Exhibit EC-190).

⁷⁹⁶ City of Wichita/Sedgwick County Economic Development Incentive Policy, p. 1 (Exhibit EC-190).

⁷⁹⁷ City of Wichita/Sedgwick County Economic Development Incentive Policy, p. 1 (Exhibit EC-190).

602. The IRB issuances and associated tax benefits are thus clearly not *de jure* specific, given the broad range of enterprises and industries that are eligible for IRB incentives, and indeed the EC seems to acknowledge this point by not asserting a claim of *de jure* specificity under Article 2.1(a). Instead, the IRB program falls squarely within the type of program that the SCM Agreement makes non-actionable.

b. *Consideration of the “other factors” referenced by the EC does not undermine the conclusion under Article 2.1(c) that the Wichita IRBs are not de facto specific.*

603. The IRB Law and associated bond issuances are not *de jure* specific under Article 2.1(a) of the SCM Agreement, and the EC has not presented any credible reason to believe that the alleged subsidy may be *de facto* specific. In fact, an examination of the implementation of the IRB Law confirms the conclusion that it is not specific.

604. The EC seems to concede that the program is broadly available and widely used. It notes that “IRBs are issued by cities and counties in Kansas, on behalf of private businesses or non-profit agencies, to help finance the acquisition and construction of various industrial and commercial properties”.⁷⁹⁸ It describes how IRBs are used by a “typical entity”, contrasting that to Boeing’s usage of IRBs.⁷⁹⁹ And it recognizes that more than a limited number of enterprises have been beneficiaries.⁸⁰⁰

605. The EC instead objects to the fact that Boeing has been a substantial user of the IRB program. (In particular, it states that Boeing and Spirit have received 61 percent of all IRBs issued by Wichita and 69 percent of all IRB-related tax abatements provided by Wichita through 2005, and that the Letters of Intent that authorize the IRB issuances were for amounts higher than in the case of other companies.)⁸⁰¹

606. Article 2.1(c) provides that if “there are reasons to believe that the subsidy may in fact be specific, other factors may be considered” – including a “predominant use by certain enterprises” and “the granting of disproportionately large amounts of subsidy to certain enterprises.”

607. However, the EC ignores the mandate of the SCM Agreement that in considering the other factors in Article 2.1(c), “*account shall be taken of the extent of diversification of economic activities within the jurisdiction of the granting authority.*” As the Agreement

⁷⁹⁸ ECFWS, Annex A para. 2.

⁷⁹⁹ ECFWS, Annex A para. 1.

⁸⁰⁰ ECFWS, para. 334 (asserting the other factors in Article 2.1(c) as grounds for a conclusion of specificity but not the “limited number of certain enterprises” factor).

⁸⁰¹ ECFWS, paras. 336-338.

recognizes, a subsidy may be widely distributed within an economy, and yet appear specific, simply due to the limited diversification of the economy in which the subsidy was granted. The core industry of Wichita has focused on aircraft production.

608. The EC also supports its claim of specificity by arguing that the structure of Boeing and Spirit's bonds have differed from other companies', suggesting that discretion has been exercised in such a way as to establish specificity. (In particular, the EC focuses on Boeing and Spirit's ownership of the bonds and the ten-year abatement terms.)⁸⁰² The EC, however, ignores the fact that nothing in the Kansas statute precludes an entity from holding its "own" bonds or from receiving ten-year abatements and, in fact, Kansas authorities have placed many other IRBs in exactly the same way and with the same benefits.

609. Thus, as discussed further below, the EC points to no evidence supporting a finding of specificity. As the complaining party, the EC bears the burden of "clearly substantiat{ing}" specificity on the basis of "positive evidence",⁸⁰³ and it has failed to do so.

i. Boeing's percentage of IRBs is not disproportionate.

610. In practice, the City of Wichita's issuance of IRBs has matched the statutory structure and design of the IRB Law: it has been broadly applied toward promoting the objective of attracting employment-generating business activity to the local area. For more than 40 years, the City of Wichita has issued IRBs under the IRB Law for the benefit of companies from a wide range of industries.

611. The City has issued hundreds of IRBs and entered into lease-purchase arrangements with more than 100 companies and other entities.⁸⁰⁴ The list of participants includes companies from a variety of industries, including: aircraft, automotive, energy, building equipment, recreational outdoor products, security services, telecommunications, transportation, and food products.⁸⁰⁵ The city normally issues 12 to 15 bonds annually, and has issued as many as 22 in one year.⁸⁰⁶ This is not a government program designed or applied specifically to assist Boeing.

⁸⁰² ECFWS, para. 339.

⁸⁰³ SCM Agreement Art. 2.4.

⁸⁰⁴ The City of Wichita began issuing IRBs in 1961 following the enactment of the IRB Law. Since 1979, when the City began keeping an electronic database of IRB issuances, it has issued 232 IRBs and entered into lease-purchase agreements with 99 different companies and other entities.

⁸⁰⁵ Minutes of Meeting of the City Council, Dec. 14, 2004 (Exhibit US-247) (regarding IRBs for Cessna, Bombardier, Learjet, Ryan International Airlines, The Coleman Company); List of IRBs Maintained by the City of Wichita, 1979-2004 (Exhibit EC-170).

⁸⁰⁶ *Wichita Business Journal*, "City Approves Boeing Industrial Revenue Bonds" (Nov. 7, 2002). (Exhibit US-248).

612. In addition, despite the EC’s insinuation to the contrary, other companies have received IRBs with large face values. The second largest employer in Wichita (after Boeing) has historically been Cessna Aircraft Company. Since 1991, Letters of Intent (LOIs) for \$2 billion of IRBs have been approved for Cessna, and IRB issuances under those LOIs have totaled over \$1 billion.⁸⁰⁷

613. The fact that a major commercial facility owned by Boeing represented a significant percentage of IRBs issued in Wichita (population 347,000⁸⁰⁸) is unremarkable. Boeing’s Wichita facility was *the largest private sector employer for the entire State of Kansas* prior to its sale to Spirit;⁸⁰⁹ its share and impact on the economy of the city in which it was sited was even more dramatic. In the 1990s, Boeing’s employment levels in Wichita exceeded 20,000 in some years with a payroll of approximately \$1 billion.⁸¹⁰ More generally, aircraft production has historically been the core industry of Wichita – a city sometimes known as the “Air Capital of the World.”⁸¹¹

614. Accordingly, given Boeing’s share of the baseline group of companies eligible for IRB issuances by the City of Wichita and the extent of economic diversification in Wichita, the level of Boeing’s usage of IRBs does not support a finding of specificity.

ii. *Boeing’s purchase of its own IRBs does not show improper exercise of government discretion.*

615. The EC also focuses mistakenly on the fact that Boeing holds its “own” IRBs – IRBs issued in respect of property it is leasing and then acquiring. The EC asserts that this ownership structure makes the tax breaks different from those for other companies and “special”.⁸¹² Even if the structure were unique or unusual, which it is not, it is irrelevant for purposes of the SCM Agreement.

⁸⁰⁷ List of IRBs Maintained by the City of Wichita, 1979-2004 (Exhibit EC-170).

⁸⁰⁸ 2002 Figure (http://www.wichita.gov/CityOffices/CityManager/EconomicDevelopment/Population_Profile.htm). The population of the four county area surrounding the City of Wichita, known as Wichita Metropolitan Statistical Area, is 550,000 (2002 figure) (Exhibit US-249).

⁸⁰⁹ *E.g.*, Minutes of the Meeting of the City Council (Nov. 8, 2004) (Exhibit EC-191), p. 153; Minutes of the Meeting of the City Council (Nov. 18, 1997), p. 9 (Exhibit EC-192).

⁸¹⁰ Minutes of the Meeting of the City Council (Nov. 18, 1997) (Exhibit EC-192), p. 9.

⁸¹¹ Wichita has been a center for the aviation industry since its beginning in the 1920s. Companies such as Swallow Aircraft, Cessna, Travel Air Manufacturing Company, Beech Aircraft (now part of Raytheon), Stearman Aircraft (now Boeing) and LearJet (now Bombardier) all had their beginnings in Wichita. Greater Wichita Convention & Visitors Bureau, Aviation and Wichita, *available at* <http://www.visitwichita.com/YourService/EventPlanning/GTP/AviationWichita.htm> (last visited June 27, 2007) (Exhibit US-250).

⁸¹² ECFWS, paras. 300, 339; ECFWS, Annex A para. 1

616. The EC's assertion that Boeing's ownership of the bonds has been special or unique is mistaken. The structure used by Boeing is not uncommon, in Wichita or elsewhere in Kansas. In Wichita, many companies hold their own bonds, including in the aircraft sector (Cessna, Bombardier Learjet), automotive (Big Dog Motorcycles), energy (Ethanol Products, LLC), building equipment (Evcon Industries, Inc.), recreational outdoor products (The Coleman Company), security (Multimedia Security Services, Inc.), telecommunications (Cox Communications), transportation (Royal Caribbean Cruises LLC, Ryan International Airlines), and food products (Case Swayne).⁸¹³

617. Moreover, the decision to hold the bonds is Boeing's, not the government's. The City of Wichita must approve the bond issuance, but the company decides whether it wants to hold the bonds. The SCM Agreement, of course, is concerned with government action; so long as the generally applicable subsidy measure permits a company to purchase its own IRBs, the choice of a company to exercise that option cannot transform a non-specific subsidy into a specific one.

618. Finally, the fact that Boeing and other companies hold their own bonds, rather than having them placed with the public or a financial institution, merely means that they have chosen to finance the property themselves, rather than using special financing through the government. The EC notes that IRBs generally offer three types of economic incentives for the entity on behalf of which they are issued: (a) property tax abatements; (b) sales tax exemptions; and (c) the ability to borrow at lower-than-market interest rates due to tax-exempt interest.⁸¹⁴ The fact that Boeing (and other companies) have chosen to utilize the broadly available IRB program to obtain the first two benefits, but not the last one, hardly shows that the subsidy was specific to Boeing.

iii. Terms of abatement and denial of health club application do not show specificity.

619. Finally, the EC alleges specificity on the basis that abatements to Boeing were for a period of ten years, and that an application for IRB tax benefits by a Wichita health club was denied in 2004.⁸¹⁵ Neither of these factors establishes that the IRBs are specific within the meaning of the SCM Agreement.

⁸¹³ Minutes of the Meeting of the City Council (Dec. 14, 2004) (approving IRB issuances where lessee will buy its own bonds, for Cessna Aircraft Company, Bombardier Learjet, Ryan International Airlines, The Coleman Company) (Exhibit US-247).

⁸¹⁴ ECFWS, Annex A para. 8.

⁸¹⁵ ECFWS, para. 313 & n.498; para. 339 & n.542.

620. The IRB Law provides for ten-year abatement of property tax: all IRB-financed property “shall be exempt from taxation” for ten years.⁸¹⁶ This is what Boeing receives.

621. Over the years, the City of Wichita has provided for ten-year abatements pursuant to Kansas law. In some cases, it has divided the abatements into two periods, and provided that the additional five years would be subject to review and approval by the City. The EC has not cited to any case where the city denied extension of such a tax abatement, and indeed, the United States is not aware of any such example. Accordingly, the EC has not shown any distinction in fact between the arrangements.

622. The EC is correct that in November 2004, the City of Wichita approved an incentive policy providing that abatements of tax on personal property (as opposed to real property) should be five years. Boeing’s IRBs, however, were authorized before enactment of this policy⁸¹⁷, and so continued to receive a ten-year abatement. A ten-year abatement on personal property tax was far from unique.

623. The EC also cites to a single rejection of an IRB application – filed by a health club in 2004 – as a basis to suggest an improper exercise of discretion that demonstrates specificity. The SCM Agreement does permit consideration of the manner in which discretion has been exercised. However, it directs that when evaluating this factor, “information on the frequency with which applications for a subsidy are refused or approved and the reasons for such decisions *shall be considered.*”⁸¹⁸

624. The fact that the City Council disapproved the issuance of IRBs and tax abatements for a health club does not demonstrate that discretion has been exercised in any untoward way, or that the IRBs are not broadly available. The City of Wichita issues IRBs to attract new investment to the area that will increase employment, and as discussed above, applies the IRB Law to that end. The City does not use the policy for businesses that must locate in Wichita in any event to take advantage of the local consumer market, and it was on this basis that the City Council rejected the application.⁸¹⁹ This was consistent with the City’s IRB Policy, which states that IRBs should be issued for projects that “will likely result in an economic growth potential and benefit to the community (e.g., the tenant shall be one with a substantial part of its total products and/or services being exported from the Wichita area or product items that might add

⁸¹⁶ Kan. Stat. Ann. § 79-201a (Exhibit EC-742).

⁸¹⁷ The last Boeing IRBs were authorized in a letter of intent approved prior to the adoption of the November 2004 incentive policy. City of Wichita Letter of Intent for Boeing IRBs (Nov. 9, 1999), including action of the Wichita City Council on July 13, 2004 extending this LOI through July 13, 2009 (Exhibit EC-183).

⁸¹⁸ SCM Agreement Art. 2.1(c) n.3 (emphasis added).

⁸¹⁹ City Council Proceedings, Nov. 9, 2004 (Exhibit EC-191) at 150.

jobs and replace purchases now being made by Wichita citizens from {sic} outside the city).”⁸²⁰ This policy was further clarified after the rejection of the health club’s application.⁸²¹ Thus, the rejection of the health club application further supports a conclusion that the IRBs are not specific.

3. Any IRB benefit to Spirit – an independent and unrelated company – did not “pass through” to Boeing.

625. In assessing the value of IRBs to Boeing, the EC also allocates to Boeing current and future IRBs issued to an independent and unrelated company, Spirit. As shown above, IRBs are not actionable subsidies, so the pass-through analysis is irrelevant. Nevertheless, the United States notes that the EC pass-through analysis rests entirely on a mistaken factual premise as well as highly questionable economics. In *US-Lumber CVD*, the Appellate Body explained that where input suppliers and producers of final products “operate at arm’s length, the pass-through of input subsidy benefits from the direct recipients to the indirect recipients downstream cannot simply be presumed; it must be established by the investigating authority. In the absence of such analysis, it cannot be shown that the essential elements of the subsidy definition in Article 1 are present in respect of the *processed* {input} *product*.”⁸²² Based on the Appellate Body’s analysis in *US-Lumber CVD*, the burden of establishing pass-through is on the complaining party. The EC has failed to meet its burden of proof; at no point does the EC adduce positive evidence of pass-through between these two independent, unrelated companies. And in any event, future measures would not be in existence at the time this Panel was established and therefore would not be within the Panel’s terms of reference.

626. Boeing sold its Wichita commercial aircraft business to Spirit in 2005. Boeing’s only remaining facility in Kansas is part of its IDS defense unit, which is not involved in the production of large civil aircraft. And, as noted earlier, Boeing’s current supply arrangements with Spirit are exceeded by Spirit’s substantial supply arrangements with Airbus.

627. Nevertheless, the EC still attempts to argue that advantages to Spirit from the IRBs “pass through” to Boeing. It bases this assertion on the fact that the City of Wichita stated its intent to issue IRBs for Spirit before the Boeing Wichita sale closed, and on an economist’s opinion that, as a general matter, the terms and conditions of the sale of a real capital asset

⁸²⁰ Industrial Revenue Bond Policy, Resolution No. R-98-151, p. 2 (Exhibit US-251).

⁸²¹ The November 2004 City of Wichita/Sedgwick County Economic Development Incentive Policy provides that, to be eligible as a services business for IRB and other incentives, the “majority of revenues must be derived from transactions originating outside the State of Kansas.” City of Wichita/Sedgwick County Economic Development Incentive Policy (Exhibit EC-190), p. 1.

⁸²² *US – Lumber CVD (AB)*, paras. 143 (emphasis in original) and para. 140 (“Where 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. In such case, it is necessary to analyze to what extent subsidies on inputs may be included in the determination of the total amount of subsidies bestowed upon processed products.”)

reflect the benefit stream expected to accrue to the new owner from the future expected subsidies. The EC also emphasizes the fact that Boeing and Spirit entered into a fixed price long-term supply contract at the time of the closing of the transaction.

a. *Future benefits to Spirit were not assured.*

628. The EC’s economic analysis is premised on a mistaken factual assumption. The EC’s expert, Professor Paul Wachtel, states that:

At the time of the transaction, the City of Wichita ... {was} *committed* to providing Boeing Wichita and its successor entity, Spirit, continuing subsidies through the 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.⁸²³

629. At the time that the Asset Purchase Agreement was signed in February 2005 between Boeing and Spirit and a price agreed for the sale,⁸²⁴ Spirit had not even applied for IRBs, much less received authorization or approval for the bonds.⁸²⁵ The City of Wichita stated its intent to issue the IRBs for Spirit only in May 2005 and issued IRBs for Spirit only in December 2005 – ten months after the pricing of the sale was fixed.⁸²⁶ Moreover, even as of May 2005, the City of Wichita was still not committed to issue the IRBs.⁸²⁷ Thus, even under the EC’s theory of pass-through, there is no basis to conclude that any future IRB benefits to Spirit would have been reflected in the price paid to Boeing

⁸²³ Paul Wachtel, *Economic Analysis: Subsidy Pass-Through and Asset Pricing Issues Relevant to Subsidies to U.S. LCA Industry*, p. 4 (Dec. 2006) (emphasis added) (Exhibit EC-16).

⁸²⁴ Asset Purchase Agreement Between the Boeing Company and Mid-Western Aircraft Systems, Inc. (Feb. 22, 2005) (Exhibit EC-166).

⁸²⁵ Spirit applied for IRBs on April 26, 2005. City of Wichita Letter of Intent dated May 25, 2005 (Exhibit EC-172) (referring to Mid-Western’s April 26, 2005 application).

⁸²⁶ City of Wichita Letter of Intent dated May 25, 2005 (Exhibit EC-172); ECFWS, para. 296.

⁸²⁷ The City Council approved in May 2005 a Letter of Intent. The City stated its intent to issue the bonds, but the issuance 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”. City of Wichita Letter of Intent dated May 25, 2005 (Exhibit EC-172), pp. 1, 2-4 (conditions include, e.g., negotiation of lease agreement with specified undertakings, full payment of prior property tax obligations, submission of compliant environmental site assessment, and commitment to achieve and maintain the wage requirements specified in the incentive policy). It was not until six months after the transaction closed, in December 2005, that the City ultimately issued IRBs on behalf of Spirit. ECFWS, para. 296.

b. The amount of future benefits to Spirit was uncertain.

630. The theory that IRB benefits to Spirit passed through to Boeing also falls short because the amount of any future benefit to Spirit, from future issuances of IRBs to Spirit, was unknown at the time of the sale to Spirit. In fact, the benefit was indeterminate whether assessed at the time the deal was priced (which is the relevant point) or at the time the transaction closed. Accordingly, even if there were some expectation that Spirit would receive future IRBs at the time the transaction was negotiated, and this were relevant to the analysis, there is no basis to determine how this might have been reflected in the sale price, if at all, because the benefit was uncertain.

631. The Letter of Intent for Spirit was issued for future IRBs with a face value of \$1 billion, but the extent to which Spirit would have been able to use that amount of IRB financing to accrue associated tax benefits was uncertain at the time of the Boeing-Spirit transaction. That is, whether Spirit would actually have had the need to purchase \$1 billion in property in the subsequent years was uncertain at that time. IRBs are only issued up to the value of assets actually being leased and purchased.

c. Long-term supply contract does not demonstrate pass-through.

632. The EC focuses on the existence of a long-term supply contract signed at the time of the sale of the Wichita facility as somehow significant in establishing pass-through. However, the EC points to nothing in the contract suggesting that tax benefits to Spirit are passed through to Boeing. In fact, the EC does not point to any evidence supporting its theory of pass-through. Moreover, at the time of the transaction, Spirit already made clear its intentions to sell to Airbus as well,⁸²⁸ and Spirit now has important long-term supply arrangements with Airbus.

633. The EC also focuses on the fact that some of the equipment that Spirit projected it would finance with IRBs was identified as for Boeing supply contracts. This fact is unsurprising – given that Spirit was to supply specific Boeing projects – and irrelevant; it does not show pass-through. The fact that a company uses a tax advantageous method to acquire equipment for a supply contract says nothing about whether the company would retain the advantage or pass it on to the buyer.

⁸²⁸ *E.g.*, Minutes of the Meeting of the City Council (Nov. 14, 2006) (Exhibit EC-171), p. 382 (recounting that at the May 2005 Wichita City Council meeting, it was noted that, in addition to continuing to supply Boeing, Spirit “also plans to expand its operations and customer base by market its aircraft parts manufacturing services to other makers of commercial aircraft, as well as corporate and military aircraft”).

634. In all events, the EC ignores the fact that much of the property listed is infrastructure that would be relevant for supplying any aircraft manufacturer, including Spirit's other major customer, Airbus.⁸²⁹

d. The EC's economic analysis on pass-through is flawed.

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."⁸³⁰

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.

4. The EC has distorted the amount of tax savings from the IRBs.

637. The value of tax abatements received by Boeing in the past, and Spirit in the future, is irrelevant for the reasons discussed above. Nevertheless, it is worth noting that the EC significantly overstates the value of the abatements. The EC values the tax benefits at "at least \$784 million" from 1989-2019, with nearly one-half (\$307 million) attributed to future IRBs.⁸³¹ The EC's calculation, not grounded in fact, is unreliable, for the reasons described below.

638. To begin, some of the IRBs have been issued with respect to property that does not relate to large commercial aircraft. Boeing has had (and continues to own) substantial facilities in Wichita related to its military business, to which some of the IRB proceeds have been applied.⁸³² The EC does not take this into account.

⁸²⁹ Spirit AeroSystems, Inc. IRB Request --2005 (Exhibit EC-195), p. 2.

⁸³⁰ Wachtel Report (EC-16), at 5 (emphasis added).

⁸³¹ ECFWS, para. 320; {EC} Estimates of Tax Benefits from Wichita IRBs (Exhibit EC-23).

⁸³² Boeing, Integrated Defense Systems, "Wichita, Kansas", available at http://www.boeing.com/defense-space/support/business_overview/wichita.html (last visited June 28, 2007) (Exhibit US-253).

639. Furthermore, the IRBs are tax abatements, and as with other tax measures, the amount of the financial contribution arising from “revenue foregone” that is otherwise due under Article 1.1(a)(1)(ii) of the SCM Agreement includes only revenue that has *actually* been foregone by a government.⁸³³ It does not include revenue that is *projected* or *expected* to be foregone in the future. Thus, the \$307 million that the EC attributes to future IRBs cannot be considered a financial contribution.

640. The estimates of future benefits are speculative – as discussed above in the context of pass-through. With respect to most of the Spirit IRBs, and some of the Boeing IRBs, the EC has calculated benefits based on IRBs that have not even been issued. Whether Spirit will actually decide to seek subsequent IRB issuances based on the Letter of Intent will depend on, *inter alia*, its rate of expansion and needs for new property.

641. Moreover, there is now a decreased likelihood of a company continuing to use IRBs, in light of the 2006 Kansas law exempting commercial and industrial machinery and equipment from state and local property tax. That change in law substantially reduces the appeal of IRBs for companies, like Spirit, that have been using IRBs primarily for machinery and equipment acquisition – as the tax abatement is no longer relevant and there are transaction costs associated with a bond issuance.

642. In all events, the new across-the-board tax exemption for commercial and industrial machinery and equipment means that the EC’s calculation of benefit – even if Spirit were to opt for IRBs in the future – is wrong. Spirit leased/purchased machinery and equipment is now exempt from property and sales tax in any event, so IRBs cannot be considered to be providing an ongoing tax advantage in this respect.

643. In addition, the EC alleges a large future direct benefit to Boeing under IRBs that have not yet been issued, and that all evidence suggests will not be issued. It assumes that in 2007 and 2008, Boeing will finance more than \$600 million worth of its own property related to large civil aircraft in Kansas under new IRB issuances, resulting in tax abatements under the EC’s calculation of nearly \$100 million. Its rationale is that in the past, Letters of Intent for Boeing IRBs have been fully utilized.⁸³⁴

644. The EC’s assumption lacks credibility. It ignores the fact that Boeing no longer has large civil aircraft operations in Kansas. It ignores the fact that in 2006, as the EC acknowledges, Boeing applied for and received only \$20 million in IRBs.⁸³⁵ It ignores the fact that the change in Kansas tax law makes it much less likely that Boeing would apply for IRBs.

⁸³³ Section X(B)(1)(b), above, provides a more detailed explanation of why this is true.

⁸³⁴ City of Wichita Letter of Intent dated May 25, 2005 (Exhibit EC-172)

⁸³⁵ Estimates of Tax Benefits from Wichita IRBs, p. 3, n. 2 (Exhibit EC-23); 2006 Boeing IRB Ordinance (Exhibit EC-179).

And in any event, future measures would not have been in existence at the time this Panel was established and therefore would not be within the Panel's terms of reference.

B. Kansas Development Finance Authority (KDFA) Bonds Issued to Spirit – an Independent and Unrelated Company – Are Not Actionable Subsidies To Boeing

645. The EC challenges the KDFA bonds as an actionable subsidy to Boeing, even though Boeing never received or even applied for KDFA bonds. The EC nonetheless attempts to allocate KDFA tax benefits away from the actual recipient of the bond financing – Spirit, an independent and unrelated company – to Boeing. As with its claims regarding IRBs, the EC asserts that KDFA's intent to issue bonds for Spirit was known before Boeing's sale of Spirit closed, and, on that basis, concludes that the sales price must have reflected expected future bond financing.

646. Neither the facts nor economic theory support a finding that KDFA bonds were a subsidy to Boeing. First, the EC incorrectly assumes that Spirit was assured of the future interest payment rebate at the time the transaction price was agreed – and, moreover, that the amount of the future interest payment rebate benefit was known at that time. Second, it is based on a mistaken theory that the value of a future expected tax benefit would necessarily be captured by the seller. And in any event, the subsidies are not specific to Boeing, which never received KDFA bond financing.

1. Spirit's purchase price for the Wichita Plant did not reflect the value of the KDFA financing; the possible future benefits to Spirit were uncertain at time Boeing sold the Wichita assets.

647. The EC's allegation of pass-through of the KDFA tax benefits is based on a report by an EC-retained economist, who premises the analysis on a mistaken factual assumption. The economist, Professor Paul Wachtel, states that "at the time of the transaction, ... the State of Kansas {was} committed to providing Boeing Wichita and its successor entity, Spirit, continuing subsidies through the issuance of: ... (b) revenue bonds by the {KDFA}, and associated grants."⁸³⁶ This assumption is central to his analysis, and it is mistaken.

648. As discussed above (regarding the EC's pass-through claim on IRBs), at the time when the Asset Purchase Agreement was signed in February 2005, and a price set for the sale, Spirit had not even applied for KDFA bonds, much less received authorization or approval for the bonds. Spirit did not apply for benefits until May 2005.⁸³⁷ Thus, even under the EC's theory, any future benefits from the KDFA bonds would not have been reflected in the price of the transaction.

⁸³⁶ Wachtel Report (Exhibit EC-16), p. 4 (emphasis added).

⁸³⁷ Mid-Western Aircraft Systems, Inc. (the prior name of Spirit) applied for issuance of the bonds on May 9, 2005. Application for Benefits (Exhibit EC-209); ECFWS, para. 348.

649. And even later that year, before the closing of the transaction, KDFA was still not committed to issue the bonds Spirit had applied for. As the EC noted, KDFA adopted a resolution declaring its “intent” to issue the bonds. The Resolution of Intent specifically provides that it “does not constitute a commitment by {KDFA} to issue the Bonds.”⁸³⁸ (The financing was approved only after the Boeing-Spirit transaction closed.)⁸³⁹

650. Finally, this was not a “continuing subsid{y}”, as Wachtel states. Boeing had never applied for or received KDFA bonds.

2. *The amount of any possible future benefits was also unknown.*

651. The amount of any possible future benefit to Spirit from a future issuance of KDFA bonds was also unknown, whether assessed at the time the deal was priced (which is the relevant point) or even at the time the Boeing-Spirit transaction closed. As the EC acknowledges, the KDFA authorized the issuance of the first tranche of bonds, for \$80 million in face value, *after* the transaction closed.⁸⁴⁰

652. Moreover, the extent of benefits to Spirit under the KDFA bonds could not have been known with any certainty years in advance. The interest payments to Spirit are funded by the withholding portion of income tax of employees of Spirit,⁸⁴¹ and neither Spirit nor Boeing could have known what the level of employment would be over the period of the bonds, especially in the cyclical aircraft market. As the EC recognizes, the only flow of funds is the transfer of tax withholding payments from Spirit’s employees to Spirit in the form of interest payments on the bonds.⁸⁴² The number of employees over time is uncertain, and in any event there is no reason to believe that Boeing and Spirit would have shared a common expectation in this regard. Moreover, the level of benefit would have been uncertain in advance because (1) employees generally have some leeway as to how much is withheld; and (2) withholding is based on each employee’s expected tax liability, which depends on factors additional to salary (number of dependents, home ownership, use of personal tax exemptions, etc.).

⁸³⁸ KDFA Resolution of Intent to Issue Bonds (Exhibit EC-210).

⁸³⁹ The Boeing-Onex transaction closed June 16, 2005. Boeing 8-K, June 16, 2005 (Exhibit EC-158). The Secretary of the Department of Commerce approved the bond issuance on June 27, 2005. Bond Resolution No. 222, p. 1 (Exhibit EC-205).

⁸⁴⁰ ECFWS, para. 341.

⁸⁴¹ Withholding tax is “the money that is required to be withheld from wages and other taxable payments to help prepay the Kansas income tax of the recipient.” Kansas Withholding Tax Guide, Kansas Department of Revenue, Pub. KW-100 (Rev. 2/07), p. 3, *available at* <http://www.ksrevenue.org/pdf/forms/kw100.pdf> (last visited June 11, 2007) (Exhibit US-252). Every Kansas employer is required to withhold Kansas Income Tax, in addition to Federal Income Tax, from the wages, supplemental wages, fringe benefits and payments other than wages. Kansas Withholding Tax Guide, Kansas Department of Revenue, Pub. KW-100 (Rev. 2/07), p. 3-5, *available at* <http://www.ksrevenue.org/pdf/forms/kw100.pdf> (last visited June 11, 2007) (Exhibit US-252).

⁸⁴² ECFWS, para. 352.

653. Accordingly, even if there were some expectation that Spirit would receive KDFA bonds at the time the Spirit transaction was negotiated, there is no basis to determine how this might have been reflected in the sale price, if at all, because the benefit was uncertain.

3. *The EC bases its pass-through allegation on a flawed economic analysis.*

654. The EC's argument that the value of expected future KDFA benefits would necessarily be captured by the seller is equally unfounded as its IRB equivalent. As in the case of the IRB bonds, even if Spirit as the purchaser would have had full certainty of the availability and amount of such future KDFA benefits (which it clearly did not), this does not automatically mean that such benefits passed through to Boeing as the seller.

4. *KDFA bonds are not a specific subsidy.*

655. In any event, the KDFA are not a specific subsidy to Boeing because the bonds in fact were not issued for Boeing. The bonds were issued to Spirit. Furthermore, the Economic Revitalization and Reinvestment Act authorizing financing approvals through July 1, 2005 was available to any person doing business in Kansas that met the statute's criteria.

XIII. ILLINOIS CORPORATE RELOCATION PROGRAM

656. The State of Illinois passed the Corporate Headquarters Relocation Act (“CHRA”) in 2001 to encourage the relocation of large companies to Illinois. The State was motivated to do so by the broad economic, social, and other benefits it believed would result from such stimulation to the local community.

657. The State of Illinois is not alone in its desire to attract large multinational corporations. Almost all states are actively seeking the important economic opportunities that such large businesses can create and working to provide the necessary incentives for these businesses. A study by the Council of State Governments shows that since 1998, over 40 states offered various tax concessions or credits to businesses for items such as equipment, manufacturing, and jobs. Most state legislatures have also enacted laws to enhance their business incentive plans. These laws have focused on tax and financial incentives, new economic development, economic zones, and worker’s compensation.⁸⁴³

A. Corporate Headquarters Relocation Act: Relocation Expenses

658. Under the CHRA, the State of Illinois agrees to reimburse the relocation costs of an “eligible business” undertaking a “qualifying project.” The relocation expenses that Boeing received are not a WTO-inconsistent subsidy because the reimbursement of such expenses was not specific to Boeing.

659. An “eligible business” is defined by the statute as:

a business that (i) is engaged in interstate or intrastate commerce; (ii) maintains its corporate headquarters in a state other than Illinois as of the effective date of this Act; (iii) had annual worldwide revenues of at least \$25,000,000,000 for the year immediately preceding its application to the Department for the benefits authorized by this Act; and (iv) is prepared to commit contractually to relocating its corporate headquarters to the State of Illinois in consideration of the benefits authorized by this Act.⁸⁴⁴

A “qualifying project” is defined as:

the relocation of the corporate headquarters of an eligible business from a location outside of Illinois to a location within Illinois, whether to an existing structure or otherwise. When the relocation involves an initial interim facility within Illinois and a subsequent further relocation within 5 years after the

⁸⁴³ Chi, Keon and Hofmann, Daniel, *State Business Incentives: Trends and Options for the Future* pp. 1-2 (2002), available at http://www.csg.org/pubs/Documents/Misc00_BusinessIncentives.pdf (Exhibit US-254).

⁸⁴⁴ 20 ILL. COMP. STAT. § 611/10 (Exhibit EC-226).

effective date of this Act to a permanent facility also within Illinois, all those activities collectively constitute a “qualifying project” under this Act.⁸⁴⁵

660. The CHRA contains several limitations on the types and amounts of relocation costs that may be reimbursed. First, an “eligible business” may be reimbursed no more than 50 percent of its qualifying relocation costs.⁸⁴⁶ Second, the State provides reimbursement in the form of annual payments for a period of ten years or until the maximum 50 percent of the “eligible business” relocation costs have been reimbursed, whichever occurs first.⁸⁴⁷ Third, each annual payment may not exceed 50 percent of the tax withholdings of the employees of the “eligible business” employed at the corporate headquarters for the previous year.⁸⁴⁸ Thus, while a company theoretically may be reimbursed up to half of its total relocation costs under the CHRA, the actual amount of reimbursement may not exceed half of the company’s employee tax withholdings during a ten-year period.

661. Pursuant to the CHRA, Boeing applied for reimbursement of its relocation costs. As provided by the CHRA, Boeing’s actual reimbursement is limited to half of its annual employee tax withholdings for a period of ten years (or until half of its total relocation costs are reimbursed). Boeing’s annual employee tax withholdings for each year since 2002 (the first year for which Boeing sought reimbursement of its relocation costs), as well as the resulting amounts of reimbursement, are as follows:⁸⁴⁹

⁸⁴⁵ 20 ILL. COMP. STAT. § 611/10 (Exhibit EC-226).

⁸⁴⁶ 20 ILL. COMP. STAT. § 611/20(b)(5) (Exhibit EC-223).

⁸⁴⁷ 20 ILL. COMP. STAT. § 611/20(b)(6) (Exhibit EC-223).

⁸⁴⁸ 20 ILL. COMP. STAT. § 611/20(b)(7) (Exhibit EC-223).

⁸⁴⁹ Illinois Corporate Headquarters Relocation Act Relocation Grant Expenses, 2002-2006 (Exhibit US-255).

Year	Withholding Amount	Reimbursement Amount
2002	[***]	[***]
2003	[***]	[***]
2004	[***]	[***]
2005	[***]	[***]
2006	[***]	[***]
Total	[***]	[***]

662. **Financial Contribution/Benefit:** The EC claims that the financial contribution for Boeing's relocation expenses is \$8.6 million from 2002 to 2011, and half of this amount, or \$4.3 million, is allocable to and constitutes a benefit to Boeing's large civil aircraft division.⁸⁵⁰

663. In fact, the amount that Boeing received is smaller than the EC claims. From 2002 to 2006 (i.e., five of the ten years Boeing is eligible to receive reimbursement payments), Boeing was reimbursed approximately [***] in relocation costs pursuant to the CHRA.⁸⁵¹ Fifty percent of this amount, which the EC claims is allocable to its large civil aircraft division,⁸⁵² is [***], and any amount attributable to Boeing is limited to this sum. Any future reimbursement that Boeing may receive between 2007 and 2011 remains speculative, as it is based on Boeing's annual employee withholding tax, which could vary based on employee income and use of personal tax deductions. And in any event, it would not be a measure in existence at the time this Panel was established and therefore would not be within the Panel's terms of reference.

664. **Specificity:** The CHRA is not specific to Boeing within the meaning of Article 2.1(a) because it is not explicitly limited to Boeing or similar enterprises. Moreover, under Article 2.1(b) and footnote 2, the payment of relocation costs under the CHRA is not specific because the CHRA contains objective criteria governing the eligibility for and the amount of costs that may be reimbursed. The CHRA provides a clear definition of an "eligible business," which includes businesses with annual revenues of at least \$25 billion.⁸⁵³ Furthermore, the statute contains limitations on the amount of reimbursements, the time frame for these reimbursements,

⁸⁵⁰ ECFWS, paras. 383, 384, 387.

⁸⁵¹ Illinois Corporate Headquarters Relocation Act Relocation Grant Expenses, 2002-2006 (Exhibit US-255).

⁸⁵² Although the EC's fifty percent allocation to large civil aircraft is not necessarily accurate, the United States accepts it only for the purposes of the Illinois State measures because the monetary values involved are small and a more accurate allocation, such as one based on revenue, would thus not necessarily result in a meaningful change in the figures.

⁸⁵³ 20 ILL. COMP. STAT. § 611/10 (Exhibit EC-226).

and the expenses that may be reimbursed.⁸⁵⁴ Boeing was the only company that received a reimbursement of relocation costs under the CHRA. However, in light of the size of the neutrally defined benefit group and the short length of time for this program, that statistic does not indicate *de facto* specificity.

B. EDGE State Income Tax Credit

665. The Economic Development for a Growing Economy (“EDGE”) Tax Credit Act was enacted in 1999 to provide wide-ranging invigoration to Illinois’ economy. Pursuant to this Act, a taxpayer may qualify for credits against its income taxes if it reaches an agreement with state authorities to undertake a project involving an investment of capital as well as the creation of new jobs in Illinois.⁸⁵⁵ A qualifying taxpayer may receive EDGE tax credits for up to ten years, although the State retains discretion to specify a shorter period,⁸⁵⁶ and the amount of the tax credit may not exceed the total income tax withholdings of the new employees hired as a result of the taxpayer’s project.⁸⁵⁷ The EDGE tax credits are not a WTO-inconsistent subsidy because Boeing [***] from them between 2003 and 2017, and they are not specific within the meaning of Article 2.1.

666. Companies of all sizes are eligible to apply for and receive EDGE tax credits.⁸⁵⁸ Moreover, the scope of eligible taxpayers is broad and includes:

a Taxpayer that is operating a business located or that the Taxpayer plans to locate within the State of Illinois and that is engaged in interstate or intrastate commerce for the purpose of manufacturing, processing, assembling, warehousing, or distributing products, conducting research and development, providing tourism services, or providing services in interstate commerce, office industries, or agricultural processing, but excluding retail, retail food, health, or professional services.

This broad availability is consistent with the stated purpose of the EDGE tax credit program, which is to “foster job creation and retention in Illinois.”⁸⁵⁹

667. To be eligible for EDGE tax credits, the company must also make a capital investment of at least \$5 million in Illinois and create or retain a minimum of 25 new jobs in the State. Furthermore, it must be shown that but for the tax credit, the project would not take place in

⁸⁵⁴ 20 ILL. COMP. STAT. §§ 611/20(b)(5)-(7) (Exhibit EC-223).

⁸⁵⁵ 35 ILL. COMP. STAT. § 10/5-20 (Exhibit EC-239).

⁸⁵⁶ 35 ILL. COMP. STAT. § 10/5-45(a) (Exhibit EC-224).

⁸⁵⁷ 35 ILL. COMP. STAT. §§ 10/5-5 and 10/5-15(d) (Exhibit US-256).

⁸⁵⁸ 35 ILL. COMP. STAT. § 10/5-20(b) (Exhibit EC-239).

⁸⁵⁹ 14 Ill. Admin. Code § 527.10 (Exhibit US-257).

Illinois (i.e the company has options to locate in other states), and that it would be more expensive to locate the project in Illinois than it would in another state. The State subdivisions, (that is cities, counties, and other sub-state jurisdictions) affected by the project must also provide support to the project.⁸⁶⁰

668. The CHRA amended the EDGE Tax Credit Act to provide that, with respect to companies also qualifying for reimbursement of relocation costs under the CHRA, the applicable time period in which the company may receive EDGE tax credits shall be 15 years.⁸⁶¹ In other words, the CHRA allows companies relocating their headquarters to the State of Illinois pursuant to CHRA to receive EDGE tax credits for 15 years rather than the 10 years provided by the EDGE Tax Credit Act. Thus, the CHRA allows Boeing to claim EDGE tax credits until 2017.

669. **Financial Contribution/Benefit:** The EC alleges that Boeing will receive a total financial contribution from the State of Illinois for the EDGE Tax Credits in the amount of \$17 million from 2003 to 2017, half of which is allocable to Boeing's large civil aircraft division.⁸⁶² In fact, the State of Illinois has made [***] financial contribution to Boeing for the EDGE tax credits during the period between 2003 and 2006 because Boeing has [***].⁸⁶³ Furthermore, the amount of EDGE tax credits that Boeing will receive from 2007 to 2017 is speculative at best. Therefore, Boeing [***] from the EDGE tax credits between 2003 and 2006 – not the \$2.3 million claimed by the EC.⁸⁶⁴ Since Boeing cannot yet claim its 2007 to 2017 EDGE tax credits, the benefit to Boeing of any future credits remains speculative. Moreover, extension of the EDGE Tax Credit from 10 to 15 years pursuant to the CHRA is too far in the future to constitute a benefit to Boeing for the years 2013 to 2017. And in any event, it would not be a measure in existence at the time this Panel was established and therefore would not be within the Panel's terms of reference.

670. **Specificity:** The EDGE Tax Credit Act is further not an actionable subsidy under the SCM Agreement because it is not specific to Boeing. The EDGE Tax Credit Act is not explicitly limited to certain enterprises under Article 2.1(a). Moreover, pursuant to Article 2.1(b), it is not specific because it contains objective criteria that govern the eligibility for, and the amounts of, the tax credits. As explained above, taxpayers operating a broad range of businesses in the State of Illinois, and who invest at least \$5 million in the State of Illinois and create or retain a minimum of 25 jobs in the State are eligible for the tax credit. The amount of

⁸⁶⁰ Illinois Public Act 91-0476, § 5-25(b)(5)(Exhibit EC-238); 14 Ill. Admin. Code § 527.30(d) (Exhibit US-258).

⁸⁶¹ 35 ILL. COMP. STAT. § 10/5-45(b) (Exhibit EC-224).

⁸⁶² ECFWS, para. 403, 405.

⁸⁶³ In 2002, [***]. Boeing 2002 Illinois Corporate Income Tax Return (Exhibit US-259).

⁸⁶⁴ ECFWS, para. 405.

the credit is limited by total income tax withholdings of the new employees hired as a result of the taxpayer's project.⁸⁶⁵

671. The EDGE Tax Credit Act is also not *de facto* specific to Boeing under Article 2.1(c), as the EC contends.⁸⁶⁶ As explained above, EDGE tax credits are broadly available to a variety of companies in Illinois that meet the Act's requirements. Moreover, numerous companies in the State of Illinois have, in fact, used the EDGE tax credits. Between 1999, when the EDGE Tax Credit Act was first enacted by the Illinois legislature, and December 31, 2006, the State approved 333 EDGE tax credit applications.⁸⁶⁷ Over just the past three calendar years, 139 companies of varying size and from diverse industries received EDGE tax credits.⁸⁶⁸ Some of the companies that received EDGE tax credit approval in 2006 include ASA Mcleansboro LLC (ethanol), B-1 Logistics, Inc. (logistics), Catty Corporation (flexible packaging), General Mills (international food marketing) Heartland Bakery (baked goods manufacturing), Hostway Corporation (internet design and marketing), Klein Tools, Inc. (tools), Pabst Brewing Company (beer), and UPM Raflatac (labelstock), to name a few.⁸⁶⁹

672. In light of the foregoing, it is clear that EDGE tax credits are not specific to Boeing because many other companies have received them. The EC erroneously focuses on the provision of the CHRA that extends the EDGE tax credit from 10 to 15 years for companies that qualify under the CHRA.⁸⁷⁰ However, the critical point is that for the first ten years, benefits to Boeing are the same as to any other program participant. Thus, it is only during the five-year extension provided by the CHRA, or in other words, beginning in 2012, that the extension adds something unavailable to non-CHRA companies. But since this treatment does not begin for five years, it is not relevant to the EC claims in this dispute.⁸⁷¹

C. Property Tax Abatements

⁸⁶⁵ 35 ILL. COMP. STAT. §§ 10/5-5 and 10/5-15(d) (Exhibit US-256).

⁸⁶⁶ ECFWS, para. 411.

⁸⁶⁷ 2006 Economic Development for a Growing Economy ("EDGE") Tax Credit Program Annual Report, p. i (Exhibit US-260).

⁸⁶⁸ Illinois Corporate Accountability Progress Report 2006: Annual Report of Recaptures Provision by Program, published by the Illinois Department of Commerce and Economic Opportunity pursuant to the Corporate Accountability for Tax Expenditures Act, available at <http://www.corpacctportal.illinois.gov/output/2006%20Recapture%20Provisions%20Report.pdf> (last visited June 11, 2007) (Exhibit US-261).

⁸⁶⁹ 2006 Economic Development for a Growing Economy ("EDGE") Tax Credit Program Annual Report, pp. 5-18 (Exhibit US-260).

⁸⁷⁰ ECFWS, para. 411.

⁸⁷¹ It is possible that by this time, the Illinois State Legislature may extend the EDGE tax credit to 15 years for other companies, in which case even the extension of time for the EDGE tax credits under the CHRA would not be specific to Boeing.

673. The Illinois Property Tax Code allows any taxing district in the State to abate the property taxes of a wide variety of enterprises.⁸⁷² The CHRA amended the relevant provision of the code to include relocated corporate headquarters among the types of enterprises eligible to receive property tax abatements. Under Illinois law, property tax abatements are not specific to Boeing.

674. As an “eligible business” under the CHRA, Boeing applied to receive abatements of its property taxes paid to the City of Chicago and Cook County.⁸⁷³ The methods for calculating the applicable abatements, among other terms agreed with both jurisdictions, were memorialized in the City of Chicago Tax Agreement and the Cook County Tax Agreement.

675. The two agreements – which by their terms are substantially identical – set out a formula for determining the value of the property tax abatements Boeing may receive as a result of its occupancy of its corporate headquarters at 100 North Riverside Plaza in Chicago. Specifically, the value of the property tax abatements is the product of: (a) the portion of the property’s total property tax bill that Boeing has paid in a given year; and (b) the “allocable share” of the property’s total property tax bill that is attributable to City of Chicago or Cook County taxes, as the case may be.⁸⁷⁴ Thus, for example, if Boeing’s share of the property’s total tax bill in a given year were \$50 out of \$150 and the “allocable share” of the property’s total tax bill attributable to the City of Chicago (as opposed to other jurisdictions) was 80 percent, Boeing would be entitled to a property tax abatement of \$40 from the City of Chicago.

676. The two agreements, however, provide certain limitations on Boeing’s entitlement to property tax abatements. First, the value of Boeing’s tax abatement may not exceed – as a percentage of the property’s total property tax bill – the ratio of rentable square feet leased to and occupied by Boeing and the total number of rentable square feet in the property. Under the agreements, this ratio is 0.3573.⁸⁷⁵ In other words, notwithstanding the formula discussed in the paragraph above, Boeing’s total property tax abatement may not exceed 35.73 percent of the property’s total property tax bill. Thus, if Boeing occupied half of the property, such that it paid \$50 of the property’s total tax bill of \$100 (and still assuming that the “allocable share” of the property’s total tax bill attributable to the City of Chicago were 80 percent), Boeing would be entitled to a property tax abatement of only \$35.73 from the City of Chicago, rather than a \$40 property tax abatement.

⁸⁷² 35 ILL. COMP. STAT. § 200/18-165 (Exhibit EC-225).

⁸⁷³ Cook County is a regional subdivision of the State of Illinois, and it includes the City of Chicago.

⁸⁷⁴ City of Chicago Tax Agreement, § 4.02 (Exhibit EC-247); Cook County Tax Agreement, § 4.2 (Exhibit EC-246).

⁸⁷⁵ City of Chicago Tax Agreement, § 4.03(b) (Exhibit EC-247); Cook County Tax Agreement, § 4.3(b) (Exhibit EC-246). Under these provisions, the numerator of this ratio may not exceed 275,234 (the rentable square feet leased to and occupied by Boeing) and the denominator is 770,271 (the total number of rentable square feet in the property).

677. Second, Boeing’s entitlement to abatement of its property taxes further depends on the number of employees it maintains at its corporate headquarters in the 100 North Riverside building.⁸⁷⁶ If Boeing maintains 500 or more employees at that location, it may receive 100 percent of the figure calculated according to the formula in the above paragraphs. If, however, it employs fewer than 500 people, its property tax abatement is reduced as follows:

Number of Employees	Entitlement to Tax Abatement
500 or more	100 percent
400-499	(number of employees/500) percent
fewer than 400	None ⁸⁷⁷

Thus, to take again the example cited above, if Boeing employed only 450 people in its corporate headquarters in a given year (and still assuming that the “allocable share” of the property’s total tax bill attributable to the City of Chicago were 80 percent), Boeing would be entitled to a property tax abatement of only \$36 from the City of Chicago, or 90 percent of the \$40 tax abatement it would otherwise receive if it had met the 500-employee threshold.

678. On the basis of the criteria described above, the total value of the tax abatements Boeing received from the City of Chicago and Cook County, respectively, as a result of this measure is as follows:⁸⁷⁸

⁸⁷⁶ City of Chicago Tax Agreement, § 4.06 (Exhibit EC-247); Cook County Tax Agreement, § 4.6 (Exhibit EC-246).

⁸⁷⁷ If Boeing employs fewer than 400 employees and such failure is not cured within the periods provided in the Agreements with the City of Chicago and Cook County, during the first 10 years of the Agreements, Boeing is required to forfeit and repay all amounts that it previously received under the Agreements. City of Chicago Tax Agreement, §§ 4.06, 8.03, and 12.03 (Exhibit EC-247); Cook County Tax Agreement, §§ 4.6, 8.3, and 12.3 (Exhibit EC-246).

⁸⁷⁸ City of Chicago Property Tax Abatements 2002-2006 (Exhibit US-262); and Cook County Property Tax Abatements 2002-2006 (Exhibit US-263).

NON-BCI VERSION

CITY OF CHICAGO

Year	Taxes Paid	Allocable Share	Employees Abatement	Tax Abatement
2002	[***]			
2003	[***]			
2004	[***]			
2005	[***]			
2006	[***]			
TOTAL	[***]			

COOK COUNTY

Year	Taxes Paid	Allocable Share	Employees Abatement	Tax Abatement
2002	[***]			
2003	[***]			
2004	[***]			
2005	[***]			
2006	[***]			
TOTAL	[***]			

679. **Financial Contribution/Benefit:** The EC claims that the total financial contribution from the local property tax abatement to Boeing is \$23 million from 2002 to 2021, half of which, or \$11.5 million, is allocable to and constitutes a benefit to Boeing’s large civil aircraft division.⁸⁷⁹ In fact, the total amount of property tax abatements that Boeing received from the City of Chicago and Cook County for the years 2002 to 2006 was [***]. Using the EC’s allocation methodology, only 50 percent of this amount, or approximately [***] can be considered a financial contribution and benefit to Boeing. Any future local property tax abatements that Boeing may receive are too speculative to be counted as a benefit to Boeing. And in any event, it would not be a measure in existence at the time this Panel was established and therefore would not be within the Panel’s terms of reference.

680. **Specificity:** Contrary to the EC’s claim, the local property tax abatements provided by the City of Chicago and Cook County are not specific to Boeing because Illinois law permits any taxing district in the State to abate the property taxes of numerous types of enterprises. These enterprises include commercial and industrial firms, academic or research institutes,

⁸⁷⁹ ECFWS, paras. 428, 430, 433.

historical societies, recreational facilities, housing for older persons, property used for horse or auto racing, and relocated corporate headquarters.⁸⁸⁰ Given the extremely broad list of entities eligible for property tax abatements under Illinois law, there is nothing to prevent the City of Chicago or Cook County from entering into such property tax abatement agreements with a host of other enterprises outside the civil aircraft industry.

D. Lease Termination

681. The City of Chicago and 100 North Riverside, LLC concluded a Lease Termination Compensation Agreement on January 13, 2003 to allow Boeing to occupy the full rentable space it had leased at 100 North Riverside Plaza in Chicago – the site of its new corporate headquarters.⁸⁸¹ Prior to that time, four of the twelve floors Boeing intended to occupy were leased and occupied by Morton International, Inc., a company that paid an above-market rental rate for 100 North Riverside. As the Lease Termination Compensation Agreement states:

In order to induce the Landlord {100 North Riverside, LLC} to consent to the termination of Morton’s long-term, above market lease in order to make floors 25-28 available to Boeing and finalize the Boeing relocation, the City agreed to pay the Landlord {\$1 million} as compensation for such lease termination.⁸⁸²

682. **Financial Contribution/Benefit:** The EC claims that the financial contribution of the Lease Termination Compensation Agreement to Boeing’s large civil aircraft division was \$0.5 million.⁸⁸³ It further argues that the benefit to Boeing was the full amount of this financial contribution.⁸⁸⁴ Although the United States does not dispute this assessment, it is important to note that under the Lease Termination Compensation Agreement, Boeing itself was obliged to pay 100 North Riverside, LLC \$2 million as compensation for its termination of the Morton lease.⁸⁸⁵

683. **Specificity:** The United States does not dispute the EC’s specificity claim.

XIV. ALLEGEDLY EXPORT-CONTINGENT SUBSIDIES

A. The Measures Found in HB 2294 Are Not Prohibited Export-Contingent Subsidies.

⁸⁸⁰ 35 ILL. COMP. STAT. § 200/18-165 (Exhibit EC-225).

⁸⁸¹ Lease Termination Compensation Agreement (Exhibit EC-217).

⁸⁸² Lease Termination Compensation Agreement, p. 2 (Exhibit EC-217).

⁸⁸³ ECFWS, para. 449.

⁸⁸⁴ ECFWS, para. 452.

⁸⁸⁵ Lease Termination Compensation Agreement, pp. 2, 5 (Exhibit EC-217).

684. The tax measures found in HB 2294 are not prohibited subsidies under Article 3.1(a), and the EC's claim that these measures are contingent on export performance has no merit. The plain language of HB 2294 makes clear that its tax incentives are in no way tied to actual or anticipated export performance.

685. Contrary to the EC's depiction, HB 2294 was not enacted to boost exports from Washington State. Rather, HB 2294 contains various tax measures that help equalize the high tax burden on the aerospace manufacturing sector as compared to other business activities in the State. Among these measures are B&O tax rate reductions, B&O tax credits for preproduction development, computer software and hardware, and property taxes, sales and use tax exemptions for computers and construction and equipment, leasehold excise tax exemptions, and property tax exemptions.

686. Given the importance of retaining aerospace manufacturing to the State of Washington's economy, HB 2294 included a provision stating that it would not become effective until the 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."⁸⁸⁶ HB 2294 defines a "{s}ignificant commercial airplane final assembly facility" as "a location with the *capacity to produce* at least thirty-six superefficient airplanes a year."⁸⁸⁷ HB 2294 became effective when the State and Boeing signed the Memorandum of Agreement for Project Olympus in December 2003. In this Memorandum of Agreement, Boeing agreed to locate the buildings and related facilities for the final assembly of the 787 in Washington.⁸⁸⁸

687. Importantly, HB 2294 does not require the commercial airplane final assembly facility to *actually produce* 36 airplanes per year; it only requires that this facility have the *capacity to produce* that number of planes per year. The EC fails to understand this crucial distinction, and its entire claim that HB 2294 constitutes a prohibited export-contingent subsidy is based on this misunderstanding.

688. The EC maintains that the HB 2294 tax incentives are *de facto* contingent upon export performance.⁸⁸⁹ The SCM Agreement explains that a *de facto* export-contingent subsidy exists when "the facts demonstrate that the granting of a subsidy, without having been made legally contingent upon export performance, is in fact tied to actual or anticipated exportation or export

⁸⁸⁶ HB 2294 § 17(1)(a) (Exhibit EC-54).

⁸⁸⁷ HB 2294 § 17(2)(d) (Exhibit EC-54) (emphasis added). HB 2294 further defines a "Superefficient airplane" to mean "a twin aisle airplane that carries between two hundred and three hundred and fifty passengers, with a range of more than seven thousand two hundred nautical miles, a cruising speed of approximately mach .85, and that uses fifteen to twenty percent less fuel than other similar airplanes on the market." HB 2294 § 17(2)(f) (Exhibit EC-54). Boeing's 787 meets this definition.

⁸⁸⁸ Memorandum of Agreement for Project Olympus, Recitals A, B, and F (Exhibit EC-57).

⁸⁸⁹ ECFWS, para. 977.

earnings.”⁸⁹⁰ The SCM Agreement, however, also cautions that “{t}he mere fact that a subsidy is granted to enterprises which export shall not for that reason alone be considered to be an export subsidy within the meaning of this provision.”⁸⁹¹ In *Canada – Aircraft*, the Appellate Body said that this sentence “precludes a panel from making a finding of *de facto* export contingency for the sole reason that the subsidy is ‘granted to enterprises which export.’”⁸⁹²

689. Despite the cautionary language of the SCM Agreement, the EC notes, in detail, how Boeing’s 787s will be sold outside the United States,⁸⁹³ that Boeing is an export-oriented company,⁸⁹⁴ and that State and Federal officials have commented on the importance of large civil aircraft exports.⁸⁹⁵ It uses these facts to assert that HB 2294 demonstrates a “favouring or discrimination in favor of a product that will inevitably be generally exported or incorporated within an exported product.”⁸⁹⁶

690. But the fact that Boeing exports many of its airplanes is not the legal standard for determining whether HB 2294 is a prohibited export-contingent subsidy under Article 3.1(a). Rather, assuming that the Panel considers the tax incentives in HB 2294 to be subsidies under the SCM Agreement (a position with which the United States disagrees), it must decide whether these subsidies are “in fact tied to actual or anticipated exportation or export earnings.”⁸⁹⁷ In *Canada – Aircraft*, the Appellate Body has elaborated on this legal standard. Specifically, it stated that footnote 4 of the SCM Agreement requires that a complaining party seeking to demonstrate that a subsidy is *de facto* contingent on export performance prove three substantive factual elements: (1) the granting of a subsidy (2) that is “tied to” (3) “actual or anticipated exportation or export earnings.”⁸⁹⁸

⁸⁹⁰ SCM Agreement, Article 3.1(a), n. 4.

⁸⁹¹ SCM Agreement, Article 3.1(a), n. 4.

⁸⁹² *Canada – Aircraft (AB)*, para. 173; Appellate Body Report, *Canada – Aircraft (21.5)*, paras. 48-49; Panel Report, *Canada – Aircraft (21.5)*, para. 5.30.

⁸⁹³ ECFWS, para. 981.

⁸⁹⁴ ECFWS, para. 982.

⁸⁹⁵ ECFWS, paras. 983-984, 987.

⁸⁹⁶ ECFWS, para. 980. The EC also erroneously attempts to mischaracterize the position of the United States in DS316 as agreeing with the view that anticipated exports can render a subsidy export-contingent. The EC states that “the US has elsewhere expressed the view that, in effect, if it is demonstrated that anticipated exports were a consideration in the enactment of the subsidy measure, then the required contingency has been demonstrated.” ECFWS, paras. 989, n. 1731, and para. 992. This completely misrepresents the U.S. claim in that dispute, which in any event, is not at issue in this dispute.

⁸⁹⁷ SCM Agreement, Article 3.1(a), n. 4.

⁸⁹⁸ SCM Agreement, Article 3.1(a), n. 4; *Canada – Aircraft (AB)*, para. 169.

691. First, the complaining party must prove “the granting of a subsidy.”⁸⁹⁹ As we noted above, however, the EC has failed to meet its burden of proof in this regard.

692. Second, the complaining party must prove that the provision of the subsidy is “tied to” actual or anticipated exports or export earnings. In *Canada – Aircraft*, the Appellate Body found that the ordinary meaning of the term “tied to” is to “limit or restrict as to . . . conditions”, and that a relationship of “conditionality” or “dependence” between the subsidy and export performance must be demonstrated. As the Appellate Body has made clear, the “tie” is “at the very heart of the legal standard in footnote 4.”⁹⁰⁰ In its view, “the facts must ‘demonstrate’ that the granting of a subsidy is tied to or contingent upon actual or anticipated exports. It does not suffice to demonstrate solely that a government granting a subsidy anticipated that exports would result.”⁹⁰¹

693. The third element of a *de facto* export contingent subsidy involves “actual or anticipated exportation or export earnings.” In *Canada – Aircraft*, the Appellate Body noted that the ordinary meaning of the term “anticipated” is “expected.” Therefore, a panel must conduct an examination of objective evidence to determine whether exports were anticipated or “expected.” This examination is separate from the examination whether there is a tie between the granting of the subsidy and actual or anticipated exports.⁹⁰²

694. The EC has failed to meet this burden of proof. To begin, the United States has clearly demonstrated in Section X above that none of the tax incentives set forth in HB 2294 “grant a subsidy” to Boeing within the meaning of Article 1 of the SCM Agreement. Even aside from the fact that these tax incentives do not constitute a subsidy to Boeing under the SCM Agreement, the EC still has not made the necessary showing, as set forth in *Canada – Aircraft*, to support a finding of a prohibited export-contingent subsidy.

695. The second factual element described in *Canada – Aircraft* requires the EC to show that the granting of a subsidy is “tied to” actual or anticipated exportation or export earnings.⁹⁰³ It is true, as the EC notes, that coming into effect of HB 2294 was contingent upon a decision to locate within the State of Washington of a commercial airplane final assembly facility. Indeed, the EC focuses heavily on the fact that word “contingent” appears in HB 2294.⁹⁰⁴ In fact, Boeing has already built the necessary commercial airplane facility. In any event, this “tie” is not relevant to Article 3.1(a).

⁸⁹⁹ *Canada – Aircraft (AB)*, para. 170.

⁹⁰⁰ *Canada – Aircraft (AB)*, para. 171; *Canada – Aircraft 21.5 (AB)*, para. 47.

⁹⁰¹ *Canada – Aircraft (AB)*, para. 171.

⁹⁰² *Canada – Aircraft (AB)*, para. 172.

⁹⁰³ *Canada – Aircraft (AB)*, para. 171; *Canada – Aircraft 21.5 (AB)*, para. 47.

⁹⁰⁴ ECFWS, para. 993.

696. Rather, what must be shown is a tie to “actual or anticipated exportation or export earnings”⁹⁰⁵ – the third factual element of a claim. In other words, the EC must prove that actual exportation or the anticipation or expectation of exports is itself the condition to which the granting of the subsidy is “tied.”⁹⁰⁶ The EC has failed to meet this burden. It claims that HB 2294’s tax incentives are “contingent on the building of a plant that *will* produce 36 aircraft per year”⁹⁰⁷ and that the “only way that Boeing would produce thirty-six 787s per year is if it were producing a significant portion of those LCA for export.”⁹⁰⁸ Accordingly, the EC concludes that “HB 2294 and the grant of the tax incentives incorporated therein were ultimately contingent on the anticipated export sales of 787s.”⁹⁰⁹

697. But, the premise of the EC’s claim – that HB 2294 is “contingent on the building of a plant that *will* produce 36 aircraft per year”⁹¹⁰ – is erroneous. As explained above, HB 2294 requires only that the airplane final assembly facility have “the *capacity to produce* at least thirty-six superefficient airplanes a year.”⁹¹¹ Nowhere does HB 2294 state that Boeing must *actually produce* 36 airplanes per year. HB 2294 contains no statutory requirement regarding the number of airplanes that must be produced, let alone exported, in order for its tax incentives to come into effect. Rather, this legislation only requires that the facility be capable of producing 36 aircraft per year (even if that capacity is not fully utilized). Boeing’s Everett facility fulfills this condition because it has the capacity to produce 36 787s annually.

698. Given that HB 2294 depends only on Boeing’s manufacturing capability, the EC’s arguments regarding the inability of the U.S. domestic market to absorb 36 787 sales per year and Boeing’s alleged need to export its airplanes are irrelevant. Even if Boeing did export a significant number of its 787s, these exports still would not render HB 2294’s tax incentive prohibited subsidies under Article 3.1(a) because the tax incentives are in no way tied to “actual or anticipated exportation or export earnings.”⁹¹² Although the State of Washington may have expected that Boeing would export some of its airplanes manufactured in the commercial

⁹⁰⁵ SCM Agreement, Article 3.1(a), n. 4.

⁹⁰⁶ *Canada – Aircraft (AB)*, para. 172.

⁹⁰⁷ ECFWS, para. 991 (emphasis added).

⁹⁰⁸ ECFWS, para. 995.

⁹⁰⁹ ECFWS, para. 995. Elsewhere, the EC also argues that there is a “clear correlation between export performance and eligibility for benefit” under HB 2294 because the “defining characteristic of the companies that will benefit from {HB 2294} is that they contribute to a product that will necessarily be generally exported.” ECFWS, para. 989. But simply because some of the companies that receive HB 2294’s tax incentives export their products does not mean that these tax incentives are *conditional* or *contingent* upon these exports. A *correlation* is quite different from a *condition* or *contingency*.

⁹¹⁰ ECFWS, para. 991 (emphasis added).

⁹¹¹ HB 2294 § 17(2)(d) (Exhibit EC-54) (emphasis added).

⁹¹² SCM Agreement, Article 3.1(a), n. 4.

airplane final assembly facility cited in HB 2294, the EC has not shown that the granting of HB 2294's tax incentives is tied to this anticipated exportation.

699. In further understanding why the tax incentives found in HB 2294 are not prohibited export-contingent subsidies, it is useful to compare HB 2294 to a different situation in which a panel found that the measures in question constituted such prohibited subsidies. In *Australia – Leather*, the Australian government provided a subsidy in the form of a grant contract to a producer of automotive leather. Howe Industries – the primary Australian firm manufacturing automotive leather – entered into a grant contract with the Government of Australia to receive grant funds. The Panel noted that, at the time Australia concluded the contract, Howe exported a significant amount of its production, and that the Australian government was aware of this fact. It also noted that Howe's exports had increased significantly, that an overwhelming majority of its sales were for export, and that the government was concerned that Howe remain in business.⁹¹³ The Panel concluded that these facts, viewed together, demonstrated that anticipated exportation was an "important condition" to the provision of the subsidies. "While the fact of exportation cannot be the sole determinative factor in the evaluation, in our view, it is clearly a relevant factor in this case, as is the level of exports."⁹¹⁴

700. The Panel then addressed the nature of the Australian market for automotive leather. It first found that the size of the Australian domestic market was too small to absorb Howe's production. In light of this fact, it found that Howe would not be able to expand its sales sufficiently to meet sales performance targets contained in the grant contract without continuing, and even increasing, exports. It also found that the Australian government was aware of these facts when it entered into the grant contract with Howe, and thus "anticipated continued and possibly increased exports by Howe."⁹¹⁵ As a result, the Panel noted that:

In our view, these facts effectively transform the sales performance targets into export performance targets. We thus consider that Howe's anticipated export performance was one of the conditions for the grant of the subsidies.⁹¹⁶

701. Unlike the situation in *Australia – Leather*, however, HB 2294's tax measures are not tied to any sales performance targets, let alone export targets. All that is necessary is for Boeing to locate a facility in the State of Washington *capable* of producing 36 787s, which it has already done.

702. The preceding analysis should end the inquiry. But, it is also worth noting that even if HB 2294 required Boeing to actually produce and sell 36 787s per year, Boeing could readily

⁹¹³ *Australia – Leather*, para. 9.66.

⁹¹⁴ *Australia – Leather*, para. 9.66.

⁹¹⁵ *Australia – Leather*, para. 9.67.

⁹¹⁶ *Australia – Leather*, para. 9.67; *Canada – Aircraft II (Panel)*, para. 7.372.

fulfill this requirement through domestic sales alone because the U.S. market is capable of absorbing well in excess of that number of airplanes. Indeed, based on Boeing's existing order record for the 787, it will place orders for at least 36 of these airplanes in the U.S. market annually. Between December 2004 and June 2007, Boeing placed 140 787 firm orders with customers located in the United States.⁹¹⁷ This is an average of more than four 787s per month.⁹¹⁸ On an annualized basis of this monthly average, Boeing would sell approximately 54.2 of its 787 aircraft per year in the domestic market.

⁹¹⁷ Boeing U.S. 787 Orders from 2004 to May 2007 (Exhibit US-264); Boeing Press Release, "Boeing, ILFC Announce Order for 63 Airplanes" (June 19, 2007) (stating that ILFC ordered 50 787s in June 2007) (Exhibit US-265).

⁹¹⁸ This average is calculated by dividing the number of firm orders for 787s sold (i.e. 140) by the number of months in the period between December 2004 and June 2007 (i.e. 31): $140/31 = 4.51$.

XV. THE PROGRAMS IDENTIFIED BY THE EC DID NOT CAUSE ADVERSE EFFECTS TO EC INTERESTS

A. Introduction

703. The years 1995-2005 were a period of steady triumph for Airbus. It became the largest producer of civil aircraft in the world, increasing its share of deliveries from 33 percent to 57 percent, and its share of orders from 16 percent to 50 percent. It successfully converted from a consortium to an integrated company, with a profit margin of more than ten percent. And, it developed a revolutionary new aircraft, the A380, designed to carry more people farther than any civil aircraft before it. In May of 2006, Airbus's parent company, EADS, reported at its general meeting that:

Revenues increased by 10% to €22,179 million (FY 2004: €20,224 million). Airbus' EBIT margin improved from 9.5% to 10.4%. With 1,111 gross orders in 2005, Airbus achieved an all-time record order intake and as a result outsold its competitor for the fifth year in a row. ... At the end of 2005, the Airbus order book amounted to €202 billion based on list prices. This is an increase of 48% over year-end 2004. The order book represents a total 2,177 commercial aircraft (2004: 1,500).⁹¹⁹

The Airbus management also reported that the company had almost finished testing of the A380, that it expected to deliver the first A380 to Singapore Airlines “at the end of 2006,”⁹²⁰ and that another new aircraft launched that year, the A350, had secured 172 orders by the end of 2005.

704. Only a month later, the situation took an unfavorable turn. By then, production problems that would lead to a significant delay in the delivery of the first A380, and cost Airbus billions of euros in penalty charges and added costs, had come to light. As a result, the value of EADS shares dropped 25 percent *in one day*. Airbus also had to face the consequences of its decision to focus its engineering and other resources on the A380. The decision to focus on the A380 meant that its effort to bring to market its A330 replacement and 787 competitor, the A350, fell far short of customer expectations. The co-CEO of EADS resigned amidst suspicions of insider trading, and two successive Airbus CEOs resigned before year end, largely as a result of the A380 delays and their effects.

⁹¹⁹ EADS, Documentation for the Annual General Meeting, p. 6 (May 4, 2006) (“EADS 2005 Documentation”) (Exhibit US-266).

⁹²⁰ EADS 2005 Documentation, p. 20 (Exhibit US-266).

705. EADS's report to shareholders in May 2007 recognized that 2006 had been "a disappointing year" for Airbus.⁹²¹ It explained the difficulties as:

- (1) *Problems with the A380.* "{P}roduction difficulties encountered for the A380 led to delays in its projected delivery schedule, with first A380 currently scheduled for delivery in October 2007. The resulting costs and charges associated with these delays will impose a significant burden on EADS' future financial program."⁹²²
- (2) *Problems with the A350.* "A350 related charges, €0.5 billion in increased R&D . . . are other important contributors to the loss."⁹²³
- (3) *Appreciation of the Euro against the Dollar.* "{L}ess attractive dollar hedges are other important contributors to the loss."⁹²⁴

Airbus predicted more losses in 2007, based largely on the same three factors: "further costs to support the A380 program, potential A350XWB launch charges, higher R&D expenses, as well as the impact of the worsening U.S. Dollar parity to the Euro."⁹²⁵ *Significantly, there was no mention of competition from Boeing or the effects of subsidies to Boeing as a source of Airbus' problems.*

706. These were not the only reasons that Airbus was having trouble. Two other important factors played a role during this period, although EADS pays them little attention:

- (4) *Problems with the A340.* When Airbus launched the A340 for long-haul service in the late 1980s, it placed four engines on the aircraft, and has retained that configuration in all subsequent models. As prices for aviation fuel increased in the 2000s, that made the A340 much less popular than the 777, which was more fuel efficient because it carried only two engines.
- (5) *Problems with pricing.* In 2002, Airbus had launched a price war, dropping its prices for A320s low enough that low-cost carriers would switch from the 737, which they had previously favored. The effect was to lower prices for all single-aisle aircraft. Boeing reluctantly lowered prices on the 737 only after belatedly

⁹²¹ EADS, Documentation for the Annual General Meeting, p. 7 (May 4, 2007) ("EADS 2006 Documentation") (Exhibit US-267).

⁹²² EADS 2006 Documentation p. 7 (Exhibit US-267).

⁹²³ EADS 2006 Documentation, p. 7 (Exhibit US-267).

⁹²⁴ EADS 2006 Documentation, p. 24 (Exhibit US-267).

⁹²⁵ EADS 2006 Documentation, p. 29 (Exhibit US-267).

realizing that matching Airbus was necessary to prevent further market share losses.

707. Even with these varied difficulties, EADS could still point to a number of Airbus successes in 2006:

The Airbus division delivered a record number of aircraft in 2006 (434 versus 378 in 2005). This led to revenues of €25,190 million representing a 14% increase compared to the previous year (FY 2005: €22,179 million). ...With 824 gross orders (790 net orders), Airbus achieved its second best year in terms of sales, including 673 Single Aisles, 134 A330s, A340s and A350s as well as 17 A380s.⁹²⁶

As a result of this strong sales performance, Airbus has increased its record backlog by 17% to 2,533 aircraft at the end of 2006, giving Airbus 51% of all outstanding orders.⁹²⁷

708. And, at the Paris Air Show just this past month, Airbus CEO Louis Gallois announced that “{t}his air show confirmed that Airbus is very much back in the market.” The statistics confirm his assessment:

- “Airbus announced a record 425 aircraft orders worth \$61.7 billion for the week, triple the sales it announced during the 2006 trade event.”
- “Airbus’ orders, combined with 303 commitments to purchase planes it announced during the week, equaled the number of aircraft that typically roll off its assembly lines during a two year stretch.”
- “Airbus appeared to shore up market confidence in its A350 WXB, the aircraft designed, and redesigned, to counter Boeing’s hot selling 787 Dreamliner. The 141 firm orders announced by the European plane maker during the trade event included a \$3.7 billion order from Singapore Airlines, one of the industry’s blue chip players, announced Friday.”⁹²⁸

709. Airbus’ record-setting performances in terms of its large civil aircraft production, sales, revenues, market share gains and profits between 2000-2005, and its evidently quick recovery from the A380 and A350 problems that made 2006 a “disappointing” year indicate that any downturn was temporary. It does not constitute serious prejudice, and, therefore, does not qualify for a remedy under Article 7.

⁹²⁶ EADS 2006 Documentation, p. 24 (Exhibit US-267).

⁹²⁷ EADS 2006 Documentation, p. 7 (Exhibit US-267).

⁹²⁸ Julie Johnsson, “Airbus finds its lost love in Paris,” *Chicago Tribune* (June 23, 2007) (Exhibit US-268).

710. However, even if the Panel were to agree that Airbus' setbacks with the A380, the A350, the A340, or any other of its aircraft rose to the level of serious prejudice, a subsidy is actionable under Article 6.4, only if that prejudicial condition is "the effect of the subsidy." The EC has failed entirely to clear this hurdle. The EC concedes that standard requires a "but for" causation test. To succeed, the complaining party must show that but for the subsidization, the serious prejudice would not have occurred. The EC also recognizes that this test requires a counterfactual analysis of how Airbus and Boeing would have performed in the absence of the alleged subsidization.⁹²⁹ It must, in other words, present evidence to show that "but for" these alleged subsidies, Boeing's development or pricing of large civil aircraft would have been materially different to the extent that serious prejudice resulted. The EC's case also fails this hurdle, as it has presented no credible evidence to show that the serious prejudice it claims is the effect of the alleged subsidies. Panels and the Appellate Body have found that, to meet this requirement, a complaining party must establish a "causal link" between the alleged subsidization and serious prejudice. The complaining party cannot prevail if factors other than subsidization are responsible for the serious prejudice.

711. The EC's chain of reasoning proceeds as follows: (1) Early stage research programs, and military research and development programs, under which Boeing performs work for the U.S. Government that is not linked to the development, production and sale of any particular commercial aircraft, have subsidized BCA's operations; (2) the benefit of those programs vastly exceeds the amount actually paid to Boeing under the government's contracts with Boeing; (3) Boeing would not have been ready to launch the 787 when it did without the "knowledge, experience, and confidence" Boeing gained while performing research services under those contracts;⁹³⁰ and (4) an economic model created by Professor Luis Cabral indicates that subsidies that increase "non-operating cash flow" lead to "price effects" in the form of "aggressive pricing," especially on competitive sales of the A330, A350 Original, A320, and A340.

712. Thus, the EC's serious prejudice case against the Boeing 737 and 777 is based *entirely* on the alleged price effects of the alleged subsidies, and the serious prejudice case against the 787 is based on a *combination* of the alleged price effects of the alleged subsidies and the product development advantages the EC claims that Boeing gained from the alleged subsidies. However, it presents no credible evidence in support of either theory.

713. With regard to its arguments regarding price effects, the EC performs a cursory "counterfactual analysis" in an attempt to meet the SCM Agreement's causation standard. However, this analysis assumes, but does not prove, that in the absence of the alleged subsidies, Boeing's prices would have increased by the amount of the alleged subsidization rate⁹³¹ – a

⁹²⁹ ECFWS, para. 1062.

⁹³⁰ ECFWS, para. 1334.

⁹³¹ ECFWS, 1396-1402, paras. 1502-1504, and 1597-1599.

proposition that the EC concedes is untrue.⁹³² The remainder of its “price effects” argument relies on (1) the *assertion* that 100 percent of a set of alleged tax benefits flow through to the prices Boeing charges its customers, and (2) an economic analysis (the “Cabral Report”⁹³³) that *assumes* the price effects of the other so-called “development subsidies” allegedly given to Boeing. In fact, insofar as Boeing’s pricing is concerned, the evidence, as opposed to the EC’s assertions and assumptions, is unequivocal on all of the following points:

- Boeing’s pricing is market-driven. It seeks the highest prices for its aircraft that the market will bear, without regard to the various payments that the EC challenges as subsidies.⁹³⁴
- Airbus has deliberately and systematically undercut Boeing’s pricing for all three types of large civil aircraft subject to the EC’s complaint in order to gain market share (the A320) U.S. Campaign Annex, paras. 78-80, to retain market share (A330) U.S. Campaign Annex, para. 37, and to compensate for customer dissatisfaction with its competing aircraft (the A340, U.S. Campaign Annex, paras. 142-144, and A350 Original, U.S. Campaign Annex, paras. 31, 56, 67).
- Boeing’s resistance to the pricing pressure put on it by Airbus is evident in both the campaign-specific evidence and, more generally, Boeing’s large market share losses. In fact, the evidence shows that Boeing’s market share losses to Airbus were greatest in the period when the alleged price effects were highest, thus disproving the EC’s claim of a link between the alleged subsidies and Boeing’s pricing.

714. With respect to “technology effects,” the EC presents no convincing reason to believe that Boeing would have developed the 787 later or more slowly in the absence of the alleged subsidization. In fact, the evidence demonstrates the opposite. When Boeing committed its resources to the 787 program, Boeing and Airbus had access to the same composite and other technology. Boeing launched the 787 well before Airbus launched the A350 XWB – the first version of that aircraft to gain market acceptance – because Airbus’ resources were, at the time, committed to the A380. Airbus’ position in the mid-size aircraft segment was, in other words, a matter of choice – Airbus decided to focus on mastering the technology of a “super-jumbo” aircraft that was designed to service hub-to-hub routes. Boeing decided to focus on a smaller, more fuel-efficient point-to-point aircraft which could build on existing, generally available developments in composite technology and reductions in composite costs. Having decided to go in a different direction than Boeing, Airbus compounded its own problem after Boeing’s 787

⁹³² The EC’s economic model – which assumes the price effects that it purports to derive – estimates that 85 percent of the value of any subsidy results in a price increase.

⁹³³ Luis M.B. Cabral, *Impact of Development Subsidies Granted to Boeing*, New York University and CEPR (March 2007) (Exhibit EC-4).

⁹³⁴ Statement of Clay Richmond (Exhibit US-275).

launch by trying to rush the development of a competing “A350” based on a quick reworking of its aging A330. The alleged subsidies to Boeing were never the issue.

715. The EC also fails to address what EADS recognized last year – that the problems that Airbus has faced over the last 12 months are problems of its own making, and unrelated to the alleged subsidization. In fact, the problems Airbus created for itself extend beyond the A380 and A350 issues discussed above. For example, Airbus decided to bring its long-range A340 to market in the 1990s as a four-engine airplane. In an era of low-priced jet fuel, the decision may have been sound. In today’s environment of very high priced jet fuel, however, that decision has only caused problems. The A340 sells poorly because it performs poorly – the A340 has been consistently rated at the very bottom of the large civil aircraft on the market by operators and investors. For the EC to claim, as it does, that subsidies, rather than the poor performance and operating economics of the A340, have caused the A340 to lose sales to Boeing’s more fuel-efficient twin engine 777 ignores all evidence regarding sales of these two aircraft.

716. Similarly, in 2000 Airbus committed billions of dollars to its A380 project. The A380, by far the largest commercial airplane ever built, is designed to fly a relatively small number of “hub-to-hub” routes. Boeing was always more skeptical about the level of demand for so large an airplane, believing that the greatest growth would be in direct “point-to-point” routes, which allow passengers to reach their destination without changing planes at congested hubs like Frankfurt, London Heathrow, or Tokyo Narita. Therefore, while Airbus was developing the A380, Boeing committed its development resources to the 787, a much smaller, much more fuel efficient aircraft based on composite technology, to fly those point-to-point routes. Because engineering resources are limited, Airbus’ decision to focus on the revolutionary A380 meant that it was impossible for it to create an equally revolutionary mid-size aircraft at the same time. Instead, it tried to make do with a low-cost reworking of the A330, calling it a new aircraft family (the “A350”) and marketing it in competition with the 787. The successive failures of this approach, as customers rejected ever more elaborate modifications to existing aircraft components, finally led Airbus to launch a truly new aircraft, the A350 XWB, which will not be ready for delivery until 2013, five years after the 787. Alleged subsidization of Boeing could not have caused Airbus’s shortage of qualified engineers, or a series of poor design decisions that customers rejected.

717. The EC does not, and cannot, claim that Airbus’s problems with production of the A380 are in any way related to anything done by Boeing. There is no doubt that the costly production delays – the A380 is two years behind schedule and billions of euros over budget – explain most, if not all, of the loss Airbus reported in 2006, and the difficulty Airbus had in finding resources to develop the A350.

718. Thus, the available evidence not only disproves the causation case the EC seeks to make, but also proves that the serious prejudice about which the EC complains is, in fact, a direct result of product development and pricing choices deliberately made by Airbus. However, the SCM Agreement does not permit the EC to attribute to subsidies the effects of such other factors.

719. Before moving on to a more specific rebuttal of the various arguments put forward by the EC, it is important to note that the United States and the EC agree on several key issues:

- Product development decisions in the large civil aircraft industry can have enormous consequences.⁹³⁵
- The alleged subsidies have not had the effect of causing material injury to Airbus or causing serious prejudice in the form of price undercutting.⁹³⁶
- The EC must establish its serious prejudice claims under a “but for” causation standard.⁹³⁷
- The causation analysis must include an examination of the nature of the alleged subsidies – their structure, design, and operation.⁹³⁸
- The panel should consider relevant evidence from periods prior to 2004.⁹³⁹

720. The United States also finds itself in agreement with the EC that any 787 technology resulting from the subsidies was technology that Boeing could have obtained on its own. Thus, the only technology issue for the Panel to examine is whether the alleged subsidies allowed Boeing to bring the 787 to market earlier than would have been possible in the absence of subsidies.⁹⁴⁰ We agree that the 787’s technology advantage over the A330 and Original A350 was the decisive factor causing the market’s lack of enthusiasm for these Airbus models,⁹⁴¹ but Airbus is now offering the A350 XWB, an aircraft comparable to the 787.⁹⁴² Finally, we agree

⁹³⁵ ECFWS, para. 1207 (“LCA manufacturing is a technology-intensive activity that involves substantial investments in R&D. These investments are necessary to enable manufacturers to continuously introduce new families of LCA, as well as develop new models within an existing family. . . . {A} failure to consistently generate new aircraft, as well as constantly improve existing product lines, would ultimately lead to a loss of market-share as existing products are overtaken by new superior products introduced by competitors.”).

⁹³⁶ ECFWS, paras. 997-1000.

⁹³⁷ ECFWS, paras. 1059-1062.

⁹³⁸ ECFWS, para. 1064.

⁹³⁹ ECFWS, para. 1076.

⁹⁴⁰ ECFWS, para. 1010.

⁹⁴¹ ECFWS at 1011.

⁹⁴² ECFWS, para. 1338 (“Airbus is now in a position to offer, with the anticipation of being able to deliver in 2013, a new-generation LCA that exhibits comparable or even better performance than Boeing’s 787 family LCA”).

that, particularly in the case of the 787, a number of non-price factors may explain a customer's choice of Boeing aircraft in sales campaign in which Airbus did not actively participate.⁹⁴³

721. The United States also finds several areas of U.S.-EC agreement regarding the competition of the 777 with A340 and A350XWB-900/1000. First, the alleged subsidies to the 777 have not had the effect of causing:

- serious prejudice to the A350 XWB-900/-1000; or
- the threat of serious prejudice to orders of the A340.⁹⁴⁴

The Parties agree that customers chose the 777 over the A340 for reasons other than price.⁹⁴⁵

722. The United States devotes much of the remainder of this section to identifying errors in the EC's arguments. It is useful at this point to identify several overarching areas of disagreement:

- The EC believes that as long as all the alleged subsidies affect the company's production cost or non-operating cash flow, their effects may be analyzed in the aggregate, even if the subsidies otherwise have different effects.⁹⁴⁶ The United States believes that the SCM Agreement is not so lax. An aggregate analysis of the effects of subsidies is possible only if the subsidies have "a sufficient nexus with the subsidized product and the particular effects-related variable under examination,"⁹⁴⁷ and is not possible if groups of subsidies are "of a different nature, and thus effect" than one another.⁹⁴⁸
- The EC believes that, even though the alleged subsidies had a general revenue effect, they should be treated as applicable first to particular models, and then to particular "competitive" campaigns.⁹⁴⁹ We believe that subsidies with an alleged effect on fungible non-operating costs, which supposedly leads to price effects, should be treated as equally applicable to all models.

⁹⁴³ ECFWS, paras. 1219, 1221.

⁹⁴⁴ ECFWS, para. 1567.

⁹⁴⁵ ECFWS, Annex F, para. 3.

⁹⁴⁶ ECFWS, paras. 1070-1073. The EC itself acknowledges the alleged subsidies "operat{e} in one of at least two broad ways," ECFWS, para. 1228, but then aggregates them because both types supposedly manifest themselves in lower prices. ECFWS, paras. 1229, 1378, 1486, and 1584 (presenting tables combining both types of subsidies).

⁹⁴⁷ *US – Upland Cotton (Panel)*, para. 7.1192.

⁹⁴⁸ *US – Upland Cotton (Panel)*, para. 7.1192.

⁹⁴⁹ ECFWS, paras. 1219-1225, 1286.

- The EC believes that the period 2004-2006 is a “reasonable period of time” for assessing the alleged adverse effects.⁹⁵⁰ The United States believes that, in an industry in which airlines purchase infrequently and often defer deliveries for many years, an objective assessment requires a reference period of at least six years, in this case 2001-2006.
- The EC believes that all of the serious prejudice analysis should be based on orders of aircraft.⁹⁵¹ The United States believe that Article 6.3 requires use of deliveries for displacement/impedance claims, and orders for lost sales and price suppression.

723. Before moving on, there is one other significant fact about Airbus’s condition that the EC neglects to mention in its submission. Although Airbus recently experienced some adversity, its revenues and production are at near record levels, and its commercial situation is improving. The A380 is nearly ready for delivery to customers, and Airbus expects orders to pick up as the aircraft proves itself in revenue service. Airbus decided to scrap the poorly designed Original A350, and start over with the A350 XWB. The EC, Airbus, and most analysts predict that the new aircraft will gain more favor with customers.⁹⁵² Indeed, Airbus has already received an impressive 232 orders and commitments for the A350 XWB in the six months since program launch.⁹⁵³ Airbus has also drastically changed its management team and undertaken a cost-cutting plan called “Power 8,” which it believes will make it more competitive in a weak dollar environment. While these developments may be consuming revenue and cash flow from the company’s financial statements today, they are investments that promise swift future improvements, as is now evident from the A350 XWB order book.

B. Analytical Framework and Analysis Common to All EC Adverse Effects Claims

724. Although the EC has split its adverse effects claims into three sets, one each for the Boeing 787, 737NG, and 777, it relies upon a common set of legal arguments. In addition, the three different sets of adverse effects claims make many of the same arguments. This section addresses the EC’s overarching legal arguments and, where possible, provides a unified rebuttal to factual points common to the three separate adverse effects arguments.

⁹⁵⁰ ECFWS, para. 1076.

⁹⁵¹ ECFWS, paras. 1214-1218.

⁹⁵² ECFWS, para. 1338 (“Airbus is now in a position to offer, with the anticipation of being able to deliver in 2013, a new-generation LCA that exhibits comparable or even better performance than Boeing’s 787 family LCA”).

⁹⁵³ Airbus Press Release, “Renewed momentum for Airbus’ leading products, and Paris Air Show with 425 firm orders” (June 22, 2007) (Exhibit US-377).

1. To satisfy Article 6.3, the complaining party must establish that in the absence of the subsidies in question, serious prejudice would not have occurred, and that indicators of the serious prejudice are not the result of other factors.

725. The EC, like the United States, recognizes that an evaluation of its claims of serious prejudice requires an analysis of whether, “but for” the subsidization, serious prejudice would have occurred.⁹⁵⁴ That causation test is implicit in the requirement that the indicators of serious prejudice under Article 6.3 be “the effect” of subsidies, and explicit in the Article 5 admonition that “{n}o Member should *cause*, through the use of any subsidy referred to in paragraphs 1 and 2 of Article 1, adverse effects to the interests of another Member.” This standard has two important implications. First, if a serious prejudice factor (significant price suppression, significant lost sales, etc.) is the effect not of the alleged subsidies, but instead is the effect of some factor (or combination of factors) other than subsidization, the complainant cannot prevail. Second, if there is prejudice, but it does not rise to the level of “serious,” the complainant cannot prevail.

726. Panels have elaborated on this “but for” causation test with regard to claims under Article 6.3(c). The *Korea – Commercial Vessels* panel found that to establish that price suppression is the effect of subsidies, “the analysis that seems to be called for by the Agreement (by virtue of the concepts of price suppression and depression themselves), concerns what the price movements for the relevant {products} *would have been* in the absence of (i.e., “but for”) the subsidies at issue.”⁹⁵⁵ That panel explained further that:

Price suppression is the situation where prices have been restrained by something, and price depression is the situation where prices have been pushed down by something. So the question to be answered is whether the “something” is subsidization. Looking at a counterfactual situation, i.e., trying to determine what prices would have been in the absence of the subsidy, seems to us the most logical and straightforward way to answer this question.⁹⁵⁶

727. As the EC noted, the *US – Cotton Subsidies* panel followed a similar approach. However, the EC neglected to indicate that both of those panels supported the proposition that:

the condition of a causal link requires us to ensure that the significant price suppression *is* “the effect of the subsidy” within the meaning of Article 6.3(c). This necessarily calls for an examination of United States subsidies, within the context of

⁹⁵⁴ ECFWS, paras. 1058-1059.

⁹⁵⁵ *Korea – Commercial Vessels*, para. 7.537.

⁹⁵⁶ *Korea – Commercial Vessels*, para. 7.612.

other possible causal factors, to ensure an appropriate attribution of causality.⁹⁵⁷

The *Korea – Commercial Vessels* panel found the *Cotton* panel’s approach “to be logical and appropriate,” and stated that

In conducting our causation analysis, we too will bear in mind the need to take into account the effects of identified factors other than the subsidies, to determine whether such factors would attenuate any affirmative causal link that we may find, or render insignificant any price suppression or price depression effect of the subsidy that we may find.⁹⁵⁸

Thus, it is not enough for a claimant to point to alleged subsidies and negative developments in sales of its merchandise in the relevant markets and assert, as the EC has, that the subsidies must have caused the problem. The analysis of the alleged subsidies and their relation to pricing and sales of the merchandise under consideration must be based on positive evidence of a linkage between them *and* must address all other factors that might account for the observed developments.

2. *Discerning the effects of a subsidy under Article 6.3 involves an analysis focusing on the nature of the subsidies, including their structure, design, and operation*

728. The EC, like the United States, recognizes that two recent panels considered the nature of alleged subsidies in evaluating claims that those subsidies had effects that resulted in serious prejudice within the meaning of Article 6.3.⁹⁵⁹ This is the case. The panel in *US – Cotton Subsidies* stated that “{w}e consider it axiomatic that the nature of a given subsidy may play an important role in determining its effects.”⁹⁶⁰ It went on to explain that it would accordingly “undertake an analysis focusing on the existence and nature of the subsidies in question by examining their structure, design and operation with a view to discerning their effects.”⁹⁶¹ The *Korea – Commercial Vessels* panel also indicated that “in conducting this ‘but for’ analysis, we will certainly be mindful of the nature of the subsidies alleged to be causing price suppression and price depression.”⁹⁶² We agree that these general principles should guide this Panel’s analysis.

⁹⁵⁷ *US – Cotton Subsidies (Panel)*, para. 7.1344.

⁹⁵⁸ *Korea – Commercial Vessels*, para. 7.618.

⁹⁵⁹ ECFWS, paras. 1058-1062.

⁹⁶⁰ *US – Cotton Subsidies (Panel)*, para. 7.1191.

⁹⁶¹ *US – Cotton Subsidies (Panel)*, para. 7.1193.

⁹⁶² *Korea – Commercial Vessels*, para. 7.616.

729. However, the EC errs in equating the inquiry into the “structure, design, and operation” of the alleged subsidies with an examination of “the purpose or intention of the measure.”⁹⁶³ Articles 5 and 6 of the SCM Agreement lay out completely objective standards for determining the existence of serious prejudice: displacement or impedance of imports or exports; significant price undercutting, price suppression or depression, or lost sales; an increase in world market share. Intent plays no role.

730. The EC attempts to argue otherwise based on one of the dictionary definitions of “design” as “{a} purpose, an intention, an aim.”⁹⁶⁴ However, reference to the ordinary meaning of terms (often, in WTO disputes, by reference to dictionaries) is one of the customary rules for the interpretation of public international law for the interpretation of *treaties*. The findings in reports adopted by the DSB may create legitimate expectations among WTO Members, but they are not themselves treaty text. Interpreting them as if they were treaty text risks moving away from the meaning of the treaty. The EC erred further in elevating one among six definitions of “design” to preeminence and ignoring more pertinent definitions that have an objective focus:

4 A preliminary sketch; a plan or pattern from which a picture, building, machine, etc., may be made. 5 An idea as executed, the combination of elements in the furnished work; an artistic device, a pattern.

Statements as to the intent of an alleged subsidy may help to put the measure in context. However, Article 6.3 of the SCM Agreement looks to the actual effect (not the intended effect) of the alleged subsidy, which can be discerned only with reference to the structure, design, and operation of the measure itself.

731. In this dispute, the vast majority of the alleged subsidies (by the value calculated by the EC) arises from (1) DoD programs that have nothing to do with, and confer no benefit on, BCA, Boeing’s large commercial aircraft division, and (2) early-stage R&D programs funded by NASA that do not confer any advantage on Boeing’s production or sales of commercial aircraft. In other words, the nature of the alleged subsidies goes a long way to disproving the EC’s allegations of a substantial benefit to Boeing’s commercial aircraft operations.

732. The EC analysis of the nature of the alleged subsidies is simplistic in the extreme. It simply splits the 14 different subsidies alleged by the EC into two groups, and asserts that subsidies placed in each group have the same effect on Boeing. This approach is inconsistent with the manifest differences in the structure, design, and operation of the various programs.

⁹⁶³ ECFWS, para. 1065.

⁹⁶⁴ ECFWS, para. 1065, n. 1750.

a. *DoD RDT&E contracts with Boeing.*

733. The EC aggregates DoD RDT&E contracts, NASA R&D contracts, and DOC ATP grants into a single group of “aeronautics R&D support.”⁹⁶⁵ These programs are very different from one another in both their nature and their effects.

734. First, with respect to the DoD RDT&E contracts, the structure of the DoD RDT&E program reflects the breadth and diversity of its mission. A multitude of contractors, universities, research centers, and internal laboratories receive funding to investigate a broad array of topics. Numerous agencies within DoD run their own programs, with their own objectives. As for design, even the EC is forced to concede that “DOD has designed its RDT&E Program to ‘assist the *U.S. defense* industry to be more competitive on a global basis.’”⁹⁶⁶ Each of the programs that the EC claims were for “dual use” technology in fact had a primarily military purpose. With the exception of a few tiny programs – DUS&T and ManTech, both of which declined in size throughout recent years – potential civil applications are completely irrelevant in the decision whether to conduct a particular project. Operation of the program is equally telling. Boeing’s civil aircraft unit accordingly receives *no* direct RDT&E funding. DoD employs rigorous auditing procedures to ensure that contractors devote DoD funds to the military purposes specified in their contracts. DoD does not disseminate the results of research conducted on its behalf.

735. As a result of these characteristics, DoD RDT&E funding does not add non-operating cash flow to Boeing’s civil aircraft operations. In fact, very little of it finds its way to BCA, and if the programs did not exist, BCA would not conduct any of the very small amount of work it does on behalf of Boeing’s defense unit. In the absence of DoD funding (and a division that produced weapons systems) BCA would not conduct the research because it would have no need for the technology. As for the limited “dual use” projects, the reason DoD funds such technologies is to obtain commercial contribution from commercial sources for military purposes. In addition, as Boeing’s decision to use only technologies with a documented civil origin shows, the absence of such programs would not have required BCA to engage in additional civil research.

b. *NASA R&D contracts with Boeing.*

736. NASA structures its aeronautics research program differently from DoD’s RDT&E program. NASA sets its research objectives based on public input and advice from the NAC and other stakeholders. Input from the military services plays little or no role. The focus is on research as such. There is little development work in the Aeronautics Research Mission Directorate, and no testing or evaluation of the type conducted by DoD. The design of these

⁹⁶⁵ ECFWS, para. 1257.

⁹⁶⁶ ECFWS, para. 1265 (emphasis added), *quoting* Final Rule, Recoupment of Nonrecurring Costs on Sales of U.S. Items, 58 Fed. Reg. 16,497 (Mar. 29, 1993) (Exhibit EC-416).

programs further distinguishes them. NASA focuses on early stage technology – often so early that the aerospace community does not know whether it will have civil or military applicability. NASA typically stops work long before the research can be applied to achieve a concrete commercial (or military) objective. The EC cites the NASA objective of enhancing U.S. competitiveness and the comments of a tiny number of officials to paint NASA as an agency whose primary purpose is to help Boeing. It disregards that NASA has a statutory mandate to contribute to “(1) The expansion of human knowledge of the Earth and of phenomena in the atmosphere and space; (2) The improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles.”⁹⁶⁷ The operation of the NASA research contracts demonstrates that building the global aeronautics knowledge base is the primary mission. NASA requires contractors to publish their results and then makes those results available in the United States and throughout the world. The agency does not limit use of those results to U.S.-owned companies and allows distribution throughout the world (except for the relatively small number of instances of restriction under U.S. export control laws).⁹⁶⁸

737. The EC is also wrong to assert that NASA research funding is the factual equivalent of non-operating cash flow for BCA. When working on research contracts, Boeing undertakes a large number of costs – most obviously, compliance with government contracting rules and information dissemination – that it would not undertake for its own research. But, more importantly, Boeing loses its right to keep the results to itself. This last aspect of the operation of NASA research is especially significant. It means that NASA research contracts do not provide a contractor with any meaningful competitive advantage because it must make the results of the research available to its competitors.

c. DOC ATP research grants.

738. DOC structures the ATP research program differently from either DoD or NASA research, in that it invites proposals in a broad area of topics, without setting any specific objectives. Applicants may submit proposals in any area for any kind of research. Winning proposals are chosen solely based on scientific merit, without regard as to whether they meet a pre-identified government need. The program favors the formation of consortia, and grants government money only in proportion to the private participants’ commitment. The program is designed to assist U.S. companies in funding early-stage, high-risk research into innovative technologies that could deliver broad-based economic rewards for the United States as a whole. The operation of this broadly directed program results in no one sector receiving particular attention.

⁹⁶⁷ Space Act, Arts. 102(d)(1) and (2) (Exhibit EC-286).

⁹⁶⁸ Part IV, Section B.3 discusses this point in greater detail.

d. Provision of goods and services in the form of NASA and DoD facilities

739. DoD and NASA built the facilities in question to promote agency work and agency objectives. They make the facilities available to private users only if (1) the use is necessary to support a contract or (2) the facilities are not in use for an agency project. The design of the programs is to allow the government to make remunerative use of facilities that would otherwise be idle. In NASA's case, the use by private parties also allows the agency to make sure its facilities are performing properly.⁹⁶⁹ There is a slight difference between the two in operation, as NASA may allow use of its wind tunnels in exchange for nonmonetary contributions, such as data, while DoD is more likely to charge money. When money is involved, the government seeks to set a market based rate, although NASA has occasionally set prices too high.

740. Use of facilities is *not* equivalent nonoperating cash flow for BCA, because Boeing gives the government money or something else of value in exchange for the usage of facilities. The only benefit would be if Boeing paid less than adequate remuneration for using the facilities, a point for which the EC provides no evidence.

e. Provision of services by NASA and DoD personnel

741. NASA provides services to a private party only pursuant to a Space Act Agreement. DoD personnel do not provide services to contractors, and the EC has presented no information to suggest that they do. Such agreements are designed to ensure that NASA receives some form of compensation, in the form of funds or other valuable consideration, commensurate with any service it provides.⁹⁷⁰ In operation, such agreements were rare, and resulted in NASA receiving valuable contributions from Boeing to NASA's mission.

742. Services provided by NASA are *not* equivalent to nonoperating cash flow for BCA, because Boeing gives the government money or something else of value in exchange for the usage of facilities. The only conceivable benefit would be if the amount paid by Boeing were less than adequate remuneration, a point on which the EC provides no evidence.

f. IR&D

743. IR&D is structured as one among many indirect cost elements that DoD may allocate to cost-based contracts. It is designed to reflect the non-contractual research that any high-tech company must conduct to remain competitive and continue to supply innovative technologies to its customers. In operation, Boeing identifies research projects eligible for treatment as IR&D based on their relation to DoD's mission, and allocates those costs to both cost-based and non-cost based contracts. To the extent that an IR&D project is of potential use to BCA, a portion

⁹⁶⁹ Part IV, Section C provides more detail on this topic.

⁹⁷⁰ Part IV, Section C.1 provides more detail on this topic.

of the cost of the project is allocated to BCA. DoD and NASA reimburse IR&D expenses only on cost-based contracts. BCA has no cost-based contracts with DoD. DCAA audits Boeing's compliance with these rules for both NASA and DoD.

744. As a result of these characteristics, IR&D reimbursement does not add non-operating cash flow to BCA. The cost of any IR&D on topics of potential use to BCA is already allocated to BCA, and BCA covers those expenses from its own revenues.⁹⁷¹ Any costs allocated to IDS, and subsequently reimbursed under cost-based contracts would not be incurred by BCA in the absence of the IR&D program.

g. B&P

745. B&P is also structured as one among many indirect cost elements that DoD may allocate to cost-based contracts. It is designed to reflect the cost of selling to a government agency, primarily in the form of preparing the complex bid or proposal documents required to gain a government contract. In operation, Boeing identifies costs related to the preparation of bids and proposals each year and, to the extent they are not covered by any contract, allocates them as general overhead to all government contracts. They are reimbursed only on cost-based contracts. To the extent BCA participates in the preparation of a bid or proposal (such as when it sells a finished civil airframe to DoD) a portion of the BCA costs will be treated as a B&P cost. However, BCA will not be reimbursed for those costs, since it sells the civil airframes to DoD at a market-determined price, and not under cost-based contracts.

746. As a result of these characteristics, B&P reimbursement does not add non-operating cash flow to BCA. In the absence of the DoD business, BCA simply would not undertake the costs associated with preparing a government contract. To the extent that BCA is involved in a DoD contract, it pays its own B&P costs.

h. NASA and DoD contract clauses regarding patent rights, data rights, and trade secrets

747. These measures are structured as standard contract clauses, with varying degrees of adaptability. Standard clauses attributing patent rights appear in multiple contracts, with little change, while data rights clauses are subject to greater variability. Either way, the division of rights between the agency and the contractor is part of the overall bargain each one strikes with the other. Each gets the rights that it values most highly without having to pay more in terms of concessions or money for rights that are not central to its mission. The design of the program is to reserve to the government all patent rights needed for the government to achieve its objectives, and to allow contractors to retain any remaining rights. This division of rights eliminates contractors' concern that participation in a government contract will lead to the loss of intellectual property rights they might otherwise have retained. In operation, Boeing's

⁹⁷¹ Part IV, Sections A and B provide more detail on this topic.

contracts with the government always contain patent and data right clauses, but the number of patents it files as a result of government contracts is very small.

748. As demonstrated above, the clauses in NASA and DoD contracts allocating patent and other intellectual property rights between the government and the private party are part of the bargain between the parties. The possibility that the research would yield a patent is factored into the overall bargain. The issuance of a patent or other intellectual property right as a result of performance on the contract does not retroactively change the balance in value of the original deal. In short, the allocation of intellectual property rights in accordance with a prior negotiated contract is not a *separate* financial contribution or benefit.

749. If followed through to its logical conclusion, the EC's theory leads to the same result. The EC has valued intellectual property rights clauses as equal to the licensing fees allegedly foregone by the government because Boeing retained limited rights with regard to patents made under NASA R&D contracts and DoD RDT&E contracts. If so, such contracts would have a benefit because they cover the cost of research that Boeing would have otherwise paid for itself. But, if Boeing had performed the research itself, it would have had full rights to any patents that arose from the research. Therefore, the patent rights clauses of the NASA and DoD contracts have *no additional effect* separate from the contracts that divide those rights between the government and Boeing. Put differently, under the EC's theory, the effect of the alleged R&D/RDT&E subsidies is to put Boeing in a *worse* situation than it would have been otherwise, because the government obtains rights (the government use license) that Boeing alone would have held if it had performed the research on its own behalf. No addition to Boeing non-operating cash flow results.

i. FSC/ETI

750. FSC and ETI benefits were structured as reductions in a taxpayer's overall tax liability, available only if the taxpayer was subject to tax and decided to claim the FSC or ETI benefits. The FSC and ETI programs were designed to exclude certain foreign-source income from taxation. The program operated by a taxpayer's filing of a tax return that claimed the relevant benefit. If the taxpayer did not claim a benefit, it paid the otherwise applicable tax. The government had the right to audit taxpayers' returns to ensure that they followed the rules correctly.

751. The FSC or ETI benefit relates to a taxpayer's revenue during a particular tax year, and can be no higher than the taxpayer's tax liability. In most cases, a dollar of FSC or ETI benefit translates into a dollar in additional revenue for the taxpayer, who realizes the benefit upon the filing of a tax return for a tax year in which it accrued FSC or ETI benefit. The EC characterizes these benefits as a reduction in marginal unit costs. However, they are better understood as an increase in revenue. In this regard, they have an effect quite different from the programs discussed above in that the revenue effect occurs *after* the transaction in a known manner.

j. B&O tax

752. Washington State provided the B&O tax reduction with regard to any aerospace manufacturing activities conducted in the state, irrespective of whether the taxpayer was an “aerospace company.” The tax reduction is designed to bring the tax on aerospace activities more into line with the rates the state charges on other activities.⁹⁷² It operates through the taxpayer claiming the rate associated with a particular activity at the time it pays its taxes.

753. The B&O tax reduction affects a tax paid in the B&O tax year in which a manufactured product is sold, so that, like the FSC/ETI benefits, it is best understood as an increase in revenue. This effect occurs after the transaction in a known manner. However, a significant portion of the value the EC ascribes to Boeing was, in fact, a tax reduction to other unrelated companies.

k. City of Wichita IRBs

754. Under the IRB program, property financed with IRBs is exempt from property tax as well as any applicable sales tax. IRBs are designed as a way for municipalities, including the City of Wichita, to encourage new economic development in the State, by encouraging capital investment. They operate as designed – they have been broadly applied for more than 40 years to provide incentives for companies to invest in Kansas by decreasing the tax burden on new property. As noted above, Boeing no longer has a commercial aircraft business in Kansas, and in all events, Kansas now exempts all commercial machinery and equipment from property and sales tax (whether or not financed with IRBs).

755. The EC argues that City of Wichita IRBs afford the holder a benefit in the form of reduced property taxes and sales tax on purchased equipment, so that the tax value is independent of the number of units sold. However, as noted above, the State of Kansas abolished property taxes and sales taxes applicable to most of Boeing’s activities, so there is no longer any revenue to forego.⁹⁷³

l. K DFA bonds

756. The EC concedes that Boeing never received (or even applied for) K DFA bonds. The EC's claim is that at the time Boeing sold its Wichita business in 2005, Kansas had committed to issue the bonds to the company that purchased Boeing’s business (Spirit AeroSystems). The EC argues on that basis that the expected value of these anticipated future bonds would have been reflected in the sales price that Boeing received. (As discussed above in Part XII, Section B.3, the EC pass-through theory is based on a mistaken factual predicate and economic analysis.) Thus, under the EC’s theory, the nature of the K DFA bonds themselves is irrelevant

⁹⁷² Part X, Section B.1(a) and (b) provide more detail on this topic.

⁹⁷³ Part XII, Section A.1 provides more detail on this topic.

– what matters to the EC is that the alleged subsidy was passed on to Boeing in the form of increased remuneration for the sale of its Kansas business in 2005. In that case, the nature of the alleged subsidy is that it would have increased the value of an asset that Boeing sold if the EC pass-through theory were valid. It is not.

757. The EC argues that KDFA bonds afford the holder a benefit in the form of lower interest payments on certain liabilities, so the tax value is independent of the number of units sold. The bonds subject to the EC claim are, in fact, held not by Boeing, but by an independent company, Spirit AeroSystems.

m. Washington State infrastructure and training programs

758. These programs are structured as payments by the state to conduct public works, such as building infrastructure and training employees. They are designed to benefit broad constituencies – the users of highways throughout the state, including I-5 and SR526 in the City of Everett; potential workers, and users of the railroads. They operate as designed, advancing the general economic interest of broad groups of people and businesses in the State of Washington.

759. As a result of these characteristics, infrastructure or training programs do not add non-operating cash flow to BCA. In the absence of spending by Washington State, Boeing would not build its own publicly accessible roads or pay for the training of unemployed workers.

n. Illinois corporate headquarters relocation program

760. This program was structured primarily in the form of a reduction in taxes paid by Boeing at the state, county, and municipal levels. The tax treatment provided was designed so as to be open to any large company seeking to relocate. As this program provided both property tax abatements and reductions in state-wide taxes, it would have effects similar to those of the Wichita IRBs and B&O tax.

o. Department of Labor grant to Edmonds Community College

761. This program is structured as a grant from the federal government to Edmonds Community College to develop a curriculum. It was designed to establish programs that would help workers take advantage of job opportunities in high growth, high demand, and economically vital sectors of the U.S. economy. It operates as designed, having allowed the college to develop a curriculum applicable to a wide number of sectors of the economy.

762. In the absence of spending by Washington State, Boeing would not pay for curriculum development programs.

3. *An aggregated analysis of the effects of subsidies is appropriate only if the subsidies in question have a sufficient nexus so that their effects manifest themselves collectively.*

a. The legal standard

763. A panel reviewing claims that multiple subsidies had the effects specified in Article 6.3 faces the mechanical question of how to analyze those subsidies. The *US – Upland Cotton* panel found that it could conduct an “integrated analysis” of the effects “of any subsidies with a sufficient nexus with the subsidized product and the particular effects-related variable under examination.”⁹⁷⁴ However, that panel also found that because subsidies directed at income support were “of a different nature, and thus effect, than the other (price-contingent) subsidies . . . we decline to aggregate them and their effects with those of the mandatory price-contingent subsidies. Rather we must consider them separately.”⁹⁷⁵ Thus, a complaining party proposing an aggregate analysis of subsidies bears the burden of first establishing the existence of a nexus among them, and with the Article 6.3 “effect” that the party alleges to have occurred.

764. The panel in *Cotton Subsidies* found that the complaining party identified a sufficient nexus between *price*-contingent subsidies and the *price* suppression analysis to look at them collectively. Where the complaining party failed to establish that such a nexus existed, the panel declined an aggregate analysis.

765. Nowhere in its submission does the EC attempt to justify aggregation of all of the alleged subsidies to Boeing. In fact, although the EC quotes the approval of an aggregated analysis in paragraph 7.1191 of the *US – Cotton Subsidies* panel report, it simply ignores the statement in the following paragraph that an aggregate analysis of *all* subsidies is *not* appropriate when subsidies have different effects.

766. In fact, the EC has itself divided the alleged subsidies into two groups, which it calls (1) subsidies to “reduce marginal unit costs” and (2) subsidies to “increase non-operating cash flow.”⁹⁷⁶ However, it does not actually assess them separately. Rather, it uses those characterizations as the starting point for its calculation of the “magnitude” of total subsidies and the aggregate “effect” of all subsidies on prices. However, it then presents the results as an aggregate number, and uses that number in its analysis. Its narrative discussion of the alleged subsidies also treats the two groups as one. That is exactly the approach rejected by the *US – Cotton* and *Korea – Commercial Vessels* panels.

⁹⁷⁴ *US – Upland Cotton (Panel)*, para. 7.1192.

⁹⁷⁵ *US – Upland Cotton (Panel)*, para. 7.1307 (citations omitted).

⁹⁷⁶ ECFWS, paras. 1233-1276.

- b. *The Panel should aggregate the programs at issue into four groups – tax reduction programs, contractual research payments, government facilities and personnel, and other programs – and analyze the effects of each group separately.*

767. As noted above, an aggregate analysis of the effects of different subsidies is appropriate when they have “a sufficient nexus with the subsidized product and the particular effects-related variable under examination” and is not appropriate when they are “of a different nature, and thus effect, than the other . . . subsidies.”⁹⁷⁷ Examination of the many alleged subsidies at issue in this dispute reveals four groups with distinct natures and effects that the panel should consider separately:

⁹⁷⁷ US – Cotton Subsidies, paras. 7.1192 and 7.1307.

<p>1. <u>Tax reduction programs</u> FSC/ETI B&O tax rate reduction as to Boeing Wichita IRBs Washington sales tax reduction Illinois corporate headquarters relocation program</p>
<p>B&O tax rate reduction as to other companies</p>
<p>2. <u>Contractual research payments</u> NASA R&D contracts NASA IR&D reimbursement NASA B&P reimbursement Intellectual property rights ATP</p>
<p>DoD RDT&E contracts DoD IR&D reimbursement</p>
<p>3. <u>Government facilities and personnel</u> NASA personnel DoD and NASA facilities State of Washington infrastructure Paine Field landing fees</p>
<p>DoD personnel DOL grant to Edmonds Community College</p>
<p>4. <u>Other programs</u> DoD B&P reimbursement</p>
<p>KDFA bonds</p>

The dotted line dividing each box indicates one additional factor relevant to the evaluation of the effect of each group of programs – that some of the payments subject to the EC’s claims were received by companies unrelated to BCA, such as Spirit AeroSystems and Boeing’s suppliers in Washington State, or were received for military research.

768. **Group 1: Tax reduction programs.** FSC/ETI benefits and the Washington State B&O tax reductions are both tax measures, and share certain similarities in structure and operation. A recipient claims the tax treatment provided by those measures by filing tax returns stating that it qualifies for the tax treatment, and setting out the tax payment it has calculated on that basis. The company may then pay any taxes owed, or request a refund if year-end calculations show an overpayment. That claim then becomes Boeing’s tax for the year unless subsequent review by the authorities or an audit reveals an improper claim. Both measures also share the design of reducing the tax rate for tax policy reasons – for FSC/ETI by removing extraterritorial taxes

and, for the Washington State B&O tax rate reduction, bringing the B&O tax incidence for aerospace companies into line with other industries.

769. These measures also work alike in that by lowering taxes that Boeing (and other companies) pay out of revenue, they directly increase profits. They are also similar in that the tax payment (and, therefore, any benefit associated with a reduced tax on revenue from a transaction) come when the company actually pays its taxes *after* the delivery of the aircraft occurs.

770. The EC also recognizes that these two measures work differently from the other alleged subsidies, and proposes that they be grouped together as “marginal unit cost” subsidies. Although the characterization is inaccurate – the measures affect taxes on revenues rather than the unit cost of production – the United States agrees with the basic conclusion that these two measures require a separate analysis.

771. The EC suggests adding Paine Field landing fees for the 747LCF to this group. For the reasons set out below, the United States considers that it fits better in the group of goods and services programs.

772. However, we suggest adding a tax measure that the EC left out, namely, the reduction in property and sales taxes related to the use of IRB financing. This measure does differ in some ways from the other tax measures, especially in that the tax relates to property rather than to revenue. However, it is a tax measure and allegedly results in revenue foregone, so it fits best into this group.

773. Finally, in its evaluation of tax reduction programs, the Panel should take account of the fact that Boeing suppliers, rather than Boeing itself, received a substantial share of the alleged subsidy from the B&O tax rate reduction. Even if the Panel accepts the unfounded EC contention that the subsidy “passed through” to Boeing in the form of lower payments for inputs purchased in Washington State, the fact that the company received the subsidy indirectly changes its nature and effects. For example, the effect of the supplier tax reduction manifests itself at the time Boeing purchases the input, rather than later when the customer pays for the finished aircraft.

774. **Group 2: Contractual research payments.** The EC treats all of the remaining programs as essentially identical, having the same nature and effects. This approach masks significant differences. Most importantly, several of the remaining alleged subsidies represent direct payments from government authorities to Boeing for the performance of research, which have much in common with each other, and little in common with the other alleged subsidies. NASA R&D contracts and DoD RDT&E contracts are emblematic. Although the two programs do have important differences, they are alike in that the agencies typically outline research objectives and take bids from different suppliers. Both agencies seek to have competitive processes, and to manage any noncompetitive procurements so as to minimize cost to the government. For both agencies, the contracts outline in detail exactly what the contractor will

do, and require the maintenance of detailed accounting records, and the submission of thorough reports on results. Both agencies oversee the contractors to make sure they are meeting program objectives. Payments are in exchange for costs incurred by the company, which has no flexibility on *how* to spend the funds. Use of the funds is carefully circumscribed and directed to activities that Boeing would not perform in the absence of the government.

775. The timing is also quite different from the tax reduction programs. Where the EC alleges that a technology used in civil aircraft was related to contracted research, Boeing received government funding, if any, many years before the order of any commercial aircraft, and even farther in advance of any final payment for aircraft delivered. And, in most cases, the research involved did not even have theoretical applicability to large civil aircraft, reducing any effect still further. In short, the conditions of receipt of NASA and DoD research contract payments and the limitations on their use distinguish them from the tax reduction programs.

776. The allocation of patent and data rights should fall into to this category because those rights derive exclusively from NASA and DoD research contracts, and are part of the bargain struck between the contracting agency and the contractor. However, we include them with the caution that under a but for analysis, these alleged subsidies have no effect in addition to the payments under for the contracts. That is because, in any situation in which the panel concludes that “but for” the subsidy, Boeing would have paid for the research itself, *it would also have been entitled to full patent and data rights*.

777. The ATP program, too, should be in this category. It operates differently from the NASA R&D and DoD RDT&E contracts, in that ATP is much less prescriptive as to how its consortia spend their research funds. There are also important differences in the structure, design, and operation of the program. However, given that ATP also provides a direct payment for the conduct of research, it fits best in this category.

778. Independent Research & Development (“IR&D”) reimbursements also should be analyzed with this group of alleged subsidies. The design also differs, because the primary objective is to reflect the commercial practice of covering a supplier’s independent research costs in the price of its goods and services. The reimbursements operate differently from the other programs in that they cover “independent” research, that is, research not subject to any contract. However, as the payments are related to research, this group provides the most accurate category for that alleged subsidy.

779. Finally, in its evaluation of the contractual research payments, the Panel should take account of the fact that DoD RDT&E or IR&D payments were for research to advance *military* objectives. Dual use is not a way for the military to advance civil aircraft production, but rather a way for DoD to leverage civil expertise and resources to advance their military objectives.

780. **Group 3: Government facilities and personnel.** This group of alleged subsidies covers those that involve the supposed provision of goods and services rather than contractual research payments. These are the EC allegations regarding services provided by NASA personnel,

services provided by DoD personnel, provision of NASA and DoD facilities, and provision of infrastructure in Washington State. They present an entirely different set of issues. With direct payment of an alleged subsidy, there is a relationship between the financial contribution (a payment of money pursuant to a contract) and the recipient (which receives the money and uses it for a specified purpose). The same does not hold true for the EC's allegations regarding NASA personnel or DoD personnel and BCA, which represent a large portion of the EC's remaining subsidy allegations. Most of the value in the EC allegations is with regard to activities by NASA personnel that have nothing to do with Boeing.⁹⁷⁸ There is no direct (or even indirect) connection. Any provision of services by NASA personnel to Boeing is subject to a Space Act Agreement, which requires the private party to provide something of value to the government in exchange for activities undertaken by government personnel. In short, the relationship under a Space Act Agreement is the reverse of a contractual research payment.

781. They also have different effects. The EC claims that a key effect of R&D or RDT&E work under contract with the government is that it allows Boeing engineers to gain “experience,”⁹⁷⁹ namely “the ability to ‘learn by doing,’ which naturally increases the confidence required to implement new and advanced technologies.”⁹⁸⁰ Boeing employees do not accumulate experience or “learn by doing” when it is NASA or DoD personnel who actually do the work. The EC also speaks of “book knowledge” and “practical knowledge” derived from the alleged subsidies.⁹⁸¹ Of course, the knowledge involved when a Boeing employee writes the “book” in the form of a report delivered to NASA and disseminates it to the public is entirely different from the knowledge obtained when a Boeing employee reads a “book” written by a NASA employee (or another contractor) that is otherwise available from NASA's library.

782. Similar concerns favor the inclusion of Washington State infrastructure in this category. The highway and other infrastructure may be used by Boeing, but also serve many other objectives, such as improving transportation for citizens and businesses throughout the state. Unlike the contractual research payments and revenue foregone, there is no direct effect on the company's cash flow, and clearly no impact on “experience” or “knowledge.”

783. The DOL grant to Edmonds Community College, which is a two-year institution of post-secondary education, also falls into this category. This program gave money to the college to develop a curriculum. Boeing receives nothing. There is nothing to suggest that any benefit from the creation of this curriculum passes through to Boeing. Students are free to take any knowledge they develop at Edmonds Community College to jobs anywhere.

⁹⁷⁸ Part IV, Section D provides more detail on this topic.

⁹⁷⁹ ECFWS, paras. 491, 504, 511, 518, 522, 528, 552, 560, 570, 576, 592, 607, 622, 635, 654, 710-717, 721-723, 766, 792, 802, 1259, 1335, and 1352.

⁹⁸⁰ ECFWS, para. 1354.

⁹⁸¹ ECFWS, para. 1343.

784. Usage of NASA and DoD facilities also fits best in this category, in that it involves the provision of services, primarily testing of equipment, at government facilities such as wind tunnels. The economic effect of such an arrangement, if the charge is less than the market would charge, which is not the case here, is more concrete than with the alleged provision of services by NASA and DoD personnel. So is the market benchmark that would allow a valuation of the benefit. However, the economic relationship is different than under the contractual research payments. So is the effect alleged by the EC. Once again, it is the government providing something to the public, rather than the government buying something from a contractor.

785. For similar reasons, the Paine Field landing fees should be included in this category, rather than with the Group 1 tax reduction programs. This measure does differ in some ways from other programs in this category, in that the landing fees are part of the cost of production, and have a fairly clear payment and commercial benchmark. However, given that the measure does not involve research payments or taxes payable after the time of order, it fits best in this category.

786. Finally, in its evaluation of the government facilities and personnel, the Panel should take account of the fact that DoD personnel have military objectives. They view civil technologies and civil aircraft in terms of how they can be adapted for military objectives. The Panel should also take into account that the DOL grants are conveyed not to Boeing, but to post-secondary education facilities for curriculum development and have no impact on Boeing.

787. **Group 4: Other programs.** K DFA bond funds and B&P reimbursement belong in a separate category by themselves, as they have little in common with the other programs. They do not primarily involve research and do not relate directly to the revenue recognized from large civil aircraft transactions, so they clearly do not belong with the contractual research payments or the tax reductions. They also do not involve the provision of a good or service.

788. DoD B&P costs are relevant only for the preparation of contracts with DoD. Even the EC concludes that the large majority of these contracts has no relationship to the production or development of civil aircraft. Moreover, it is clear that in the absence of military contracts, BCA would not incur the costs of preparing bids and proposals for DoD. Thus, this program's effect on the production and development of large civil aircraft is entirely different from the effect of other programs.

789. The K DFA's payment of part of the interest associated with bonds held by Spirit AeroSystems also has a distinct nature, most particularly because the money does not go to Boeing. As noted above, under the EC's theory, the nature of that alleged subsidy is that it increased the value of an asset (the Wichita operation) that Boeing sold. That claim differentiates this particular program from all of the other programs.

4. *The allegedly subsidized product, the EC like product, the EC affected product, and the reference period.*

790. For purposes of analyzing a party's claims of serious prejudice under Article 6.3, it is useful for a Panel first to identify the allegedly subsidized product, the product allegedly affected by subsidies, and the period on which it will focus its analysis. The United States disagrees with the EC's approach on each of these issues.

- a. The EC claims that the alleged subsidies benefitted the entire U.S. large civil aircraft industry, which consisted of seven aircraft families during the period covered by the EC claims.*

791. Like any other term in a covered agreement, the term "subsidized product" must be interpreted in accordance with its ordinary meaning in its context, and in light of the object and purpose of the SCM Agreement.⁹⁸² A "subsidized product" is indisputably a product "in respect of which a subsidy is directly or indirectly granted or maintained."⁹⁸³ Further, Article 6.3 uses the term "subsidized product" in the context of provisions that contemplate the examination of the "effect of the subsidy." The identification of the "subsidized product" in a particular case must, therefore, be one that relates to assessment of the effects of the subsidy.

792. The EC states that the subsidies it alleges to exist were granted to "the US LCA industry, including, in particular, to Boeing and the McDonnell Douglas Corporation ("McDonnell Douglas" or "MD") prior to its merger with Boeing."⁹⁸⁴ In discussing the nature of these alleged subsidies, it states that "US federal, state, and local governments have structured and designed their subsidies to the US LCA industry specifically to enhance Boeing's competitiveness and help it win market-share at the expense of Airbus."⁹⁸⁵ Moreover, the nature the EC ascribes to the alleged subsidies – that they reduced marginal unit costs and increased Boeing's non-operating cash flow,⁹⁸⁶ would tend to apply equally to the entirety of BCA, the division that produces large civil aircraft. For the most part, the EC has not asserted that programs were tied to particular aircraft models.

793. During the 1999-2006 period covered by the EC's claims, Boeing produced seven aircraft models: the 717, 737, 747, 757, 767, 777, and 787.⁹⁸⁷ Some of these numbers may

⁹⁸² Vienna Convention on the Law of Treaties, Art. 31(1).

⁹⁸³ *US – Cotton Subsidies (Panel)*, para. 7.1220.

⁹⁸⁴ ECFWS, para. 22.

⁹⁸⁵ ECFWS, para. 1227.

⁹⁸⁶ ECFWS, paras. 1233 and 1244.

⁹⁸⁷ In this section, we use the names of the major model to include all derivative variants, so that "787" is synonymous with what the EC calls the "787 family," and "A320" is synonymous with what the EC calls the "A320

appear unfamiliar to readers of the EC submission, which barely mentions the 717 and 757 at all, and treats the 747 as if it were unrelated to Boeing's sales of 737NG, 777, and 787. All have at various times competed against Airbus aircraft. The 717 and 757 are now defunct because they could not compete successfully against the A320. The 767, although still in production, has suffered greatly from competition with the A330. However, the EC largely disregards these Boeing aircraft to create the appearance that the alleged subsidies were even larger than the already inflated values that the EC ascribes to them.

794. Nevertheless, all seven of these aircraft models will have shared any benefit that the EC alleges with regard to the subsidies it identifies, making them the allegedly "subsidized product" for purposes of Article 6. The EC, however, has chosen not to make allegations of serious prejudice with regard to the 717, 747, 757, or 767, apparently conceding that the alleged subsidies with regard to these aircraft either did not cause serious prejudice, or caused prejudice that did not rise to the level of "serious." However, an examination of the EC's claims regarding the 787, 737NG, and 777 would exaggerate the magnitude and effect of any subsidies on those aircraft if it that disregarded the existence of the rest of Boeing's product line.

b. The SCM Agreement and DSU afford a complaining party flexibility in structuring its prima facie case, so the Panel may accept the EC's division of the market into five "segments" as the starting point of its analysis, even though that division does not comport with the facts.

795. A party identifying a subsidized product must then identify the like product for purposes of displacement and impedance claims under Article 6.3(a) and (b). It must also indicate the product that has allegedly undergone price suppression or suffered lost sales for purposes of price suppression and lost sales under Article 6.3(c). (The EC has made no claims of price undercutting under Article 6.3(c).) The EC has attempted to meet this burden with a long section on "LCA Markets,"⁹⁸⁸ alleging that competition between Airbus and Boeing occurs exclusively in three different segments, matching three discrete groups of aircraft:

⁹⁸⁷(...continued)

family," which includes the A318, A319, and A321.

⁹⁸⁸ ECFWS, paras. 1153-1185.

Segment	Boeing aircraft	Airbus aircraft
Single-aisle, 100-200 seat short-to medium-range aircraft	737NG	A320
Wide-body 200-300 seat medium- to long- or ultra-long range aircraft	787/767	A330 350 XWB-800
Wide-body 300-400 seat long- or ultra-long-range aircraft	777	A350 XWB-900 A350 XWB-1000 A340

Even this simplified portrayal of the EC product segments indicates that they are not as discrete as the EC would have the Panel believe, as the A350 competes in two of the three segments. It is also significant that aircraft capabilities can vary depending on how the customer configures them. For example, the A340-500's average seating in commercial service would place it in the 200-300 seat segment. Thus, the capabilities and commercial uses of particular aircraft straddle the lines drawn by the EC. In addition, the capabilities of many of these aircraft overlap those of aircraft with which they supposedly do not compete.

796. Airbus itself recognizes that competition in this industry is not confined to segments. As one Airbus executive has testified:

Since Airbus was established for the precise purpose of becoming a viable, profitable, long term enterprise, it was necessary to plan for a family of aircraft. As early as 1973, Airbus Industrie proposed the development over time of five related aircraft types. With the recent launch of the A330 and A340 programs, these five types are now in place.⁹⁸⁹

This strategy continues to the present day. A report of the EADS Board of Directors prepared for the EADS general shareholder meeting scheduled for May 4, 2007 states that the first of the “long-term strategic goals” of EADS is:

Target long-term leading position in commercial aircraft:

Despite the difficulties in 2006, EADS will continue to strive for leadership in the commercial aircraft market. Product innovation, customer satisfaction and further development of its international partnerships are key elements of the Group's strategy. *A complete*

⁹⁸⁹ Testimony of Alan Boyd, Chairman of Airbus Industrie of North America, Inc., to U.S. House of Representatives Subcommittee on Commerce, Consumer Protection, and Competitiveness, p. 34 (June 23, 1987) (Exhibit US-269).

*product portfolio is seen as necessary to serve the customer base and to maintain overall competitiveness.*⁹⁹⁰

In fact, manufacturers often offer models from multiple segments simultaneously.⁹⁹¹

797. Customers do not divide the world in this manner, either. A decision in the single aisle segment may also affect the prospects of later placing a much larger aircraft with the same customer.⁹⁹² For example, the president of Iberia Airlines stated that its “selection of the A340-600 ... is mainly driven by the high level of flexibility and commonality with our A340-300 and single-aisle A320 Family fleets.”⁹⁹³ Thus, even though Iberia purchased its A320, A340 “basic,” and A340-600 aircraft at different times, the common features between them increased the value to Iberia of purchasing the whole fleet.

798. Because many airlines operate *fleets* of aircraft (whether purchased all at once or over time) rather than individual models in isolation from one another, aircraft manufacturers must also design and market their LCA families as an integrated whole in order to compete in the market. No manufacturer of a single product or family of products, no matter how compelling, has survived in the large civil aircraft industry. Accordingly, a customer’s negative impression of a manufacturer’s large civil aircraft currently in its fleet may affect its attitude toward that manufacturer’s offer of such aircraft from a different segment.⁹⁹⁴

799. We note these flaws with the EC reasoning because they are important to an accurate understanding of how the large civil aircraft market works as a matter of fact. However, they are of less import to how the Panel organizes its analysis. It is well established that the burden of demonstrating the existence of serious prejudice within the meaning of Articles 5(c) and 6.3 of the SCM Agreement rests on the complaining party.⁹⁹⁵ In demonstrating the existence of serious prejudice under any of the provisions of Article 6.3 that require the identification of a “subsidized product,” the complaining Member must make a *prima facie* case that the “effect of the subsidy” is one of the types of serious prejudice enumerated in Article 6.3, including as appropriate an identification of a product in respect of which the subsidy is granted or maintained and a like product in respect of which the corresponding serious prejudice is

⁹⁹⁰ EADS, Report of the Board of Directors, in EADS 2006 Documentation, p. 30 (Exhibit US-267) (bold in original, italics added).

⁹⁹¹ U.S. Campaign Annex, Campaigns 5, 25.

⁹⁹² U.S. Campaign Annex, para. 121 (quoting Exhibit EC-1701(HSBI)).

⁹⁹³ Airbus Press Release, “Iberia increases A340-600 order” (Apr. 2, 2003) (Exhibit US-374).

⁹⁹⁴ U.S. Campaign Annex, para. 118 (quoting Exhibit EC-1068).

⁹⁹⁵ *US – Wool Shirts (AB)*, para. 337.

experienced. Once the complaining Member has made its *prima facie* case, the burden shifts to the defending Member to rebut or defend against that *prima facie* case.⁹⁹⁶

800. Thus, as the EC correctly argued to the panel in *Korea – Commercial Vessels*:

As long as the complainant identifies markets or products that are reasonable and coherent, the Panel should accept that definition. The Panel should reject the complainant’s proposed definition only if it would make a market analysis impossible.⁹⁹⁷

While the EC’s division of the market into five discrete segments has serious flaws, the subsidized products it identifies are sufficiently coherent to permit an analysis. (This is not true of the EC’s identification of individual third countries and sales campaigns as discrete “markets,” which we discuss below.) Therefore, the Panel may use the EC’s five-way division of the market as the basis for evaluating the EC’s claims of serious prejudice. We accept this approach solely as an organizational matter. The flexibility granted to a complaining party in framing its *prima facie* case does not extend to preventing the panel or the responding party from considering evidence that indicates the complaining party has failed to meet its burden of proof.

801. The EC’s five-segment division of the market has one important implication, namely, that the EC believes sales of products in the different segments do not affect each other. Thus, under the EC’s theory, sales of the 737 affect only sales of A320, and do not affect sales of the A330, A340, A350 Original, and A350 XWB. The same would hold true with regard to sales of the 777 and 787 in their segments.

802. Therefore, the Panel should understand the EC as having made only three adverse effects claims:

- alleged subsidies to the 787 caused adverse effects to the A330, the A350XWB-800, and the A350 Original;
- alleged subsidies to the 777 caused adverse effects to the A340 and A350-XWB-900 and -1000; and
- alleged subsidies to the 737NG caused adverse effects to the A320.

In addition, as the EC has presented no information about any other sort of adverse effect, the Panel should conclude that

⁹⁹⁶ *US – Wool Shirts (AB)*, para. 337.

⁹⁹⁷ *Korea – Commercial Vessels*, Annex F-1, para. 33 (Oral Statement of the European Communities at the Second Panel Meeting).

- the EC has conceded that any subsidization of the 717, 747, 757, and 767 *had no adverse effect* on any Airbus product;
 - the EC has conceded that any subsidization of the 787 *had no adverse effect* on A320, A340, A350 XWB-900, XWB-1000, or A380;
 - the EC has conceded that any subsidization of the 777 *had no adverse effect* on A320, A330, A350 Original, A350 XWB-800, or A380; and
 - the EC has conceded that any subsidization of the 737 *had no adverse effect* on A330, A340, A350 (original or XWB), or A380.
- c. *The three-year “reference period” proposed by the EC fails to take account of the conditions of competition in the large civil aircraft market.*

803. The terms of reference for the Panel provide for it to examine “the *matter* referred to the DSB by the European Communities” in its request for panel establishment.⁹⁹⁸ This “matter” includes both the measures and the claims identified in the request for panel establishment.⁹⁹⁹ Article 11 of the DSU provides that “a panel should make an objective assessment of the matter before it, including an objective assessment of the facts of the case and the applicability of and conformity with the relevant covered agreements.” Thus, a panel considering claims of serious prejudice under Article 6.3 must examine the markets referenced in that article over a period of time sufficient to permit an objective assessment of the “matter before it.”

804. The EC notes that the *US – Cotton Subsidies* panel chose a “reference period” over which to assess the existence of serious prejudice, and proposes a period of three years – 2004 through 2006. However, the EC asserts that it is free to present “data for the period prior to 2004 as well as data in 2007 to demonstrate the existence of serious prejudice.”¹⁰⁰⁰

805. The United States believes that the EC is correct in noting that a party (whether complainant or respondent) may present the data that it considers relevant to a panel’s proceedings. That, however, does not address the weight that the panel should place on the information submitted.

806. In this regard, it is significant that the complaining Member has the burden of making a *prima facie* case in support of its claims.¹⁰⁰¹ In attempting to do so, the complaining Member will set forth the facts and arguments necessary to demonstrate the validity of its claims. In the context of a claim of serious prejudice within the meaning of Article 5, these facts and

⁹⁹⁸ Document WT/DS353/3, para. 2 (4 December 2006) (emphasis added).

⁹⁹⁹ *Guatemala – Cement I (AB)*, para. 72.

¹⁰⁰⁰ ECFWS, para. 1076.

¹⁰⁰¹ *US – Wool Shirts (AB)*, para. 337.

arguments will necessarily relate to serious prejudice that occurred over a particular period of time.¹⁰⁰² It is for the complaining Member, as part of meeting its burden of proof, to identify the period over which it considers the adverse effects of the challenged subsidies to have manifested themselves. Likewise, it is for the responding party to identify facts and arguments that rebut the *prima facie* case established by the complaining party. The responding party may, of course, choose to identify facts and arguments pertaining to a different period of time, if it considers that these facts and arguments serve to rebut the *prima facie* case made by the complaining Member. In evaluating whether the parties have successfully made or rebutted a *prima facie* case, a panel will examine whether the reference periods, if any, identified by the parties are adequate for the parties to meet their respective burdens of proof.

807. The United States believes that the three-year period of time chosen by the EC does not permit an objective assessment of the matter before the Panel for several reasons:

- *First*, the large civil aircraft industry is characterized by very long time horizons – the “several years” that it takes to develop a new family of aircraft;¹⁰⁰³ the long period over which sales campaigns develop; and the three-year average period between order and delivery.¹⁰⁰⁴
- *Second*, the outcomes of individual sales campaigns have market effects that continue for many years thereafter. Once an airline has chosen one large civil aircraft manufacturer over the other, it tends to make additional follow-on orders from that manufacturer in subsequent years. In addition, a sales campaign at an airline (for example, the 2004 campaign at Air Berlin) sets price expectations for subsequent campaigns for the same airline. In fact, pricing in a major sales campaign like that at Air Berlin or at easyJet in 2002 has ramifications for years as other customers demand similar price concessions.
- *Third*, as the EC has recognized in another dispute involving large civil aircraft, the industry has an exaggerated business cycle which is particularly sensitive to external events. Short-term trends are therefore not necessarily indicative of the underlying dynamics of the market and the effects of subsidies. Indeed, Airbus itself states: “{n}o single year’s order intake and market share in an industry

¹⁰⁰² A Member may even use different periods to demonstrate the existence (or non-existence) of adverse effects in the same dispute. For example, the EC chose to make certain arguments in *Korea – Commercial Vessels* with respect to a six-year reference period, paras. 7.648-7.649, and other arguments with respect to a ten-year reference period, para. 7.658.

¹⁰⁰³ ECFWS, para. 473.

¹⁰⁰⁴ ECFWS, para. 1216.

with such long-term horizons can be taken as an indication of market position.”¹⁰⁰⁵

808. As the EC concedes, the average time between order and delivery is three years. Thus, aircraft ordered in 2004 are, on average, only now being delivered. A three-year period also gives the panel very little information to put the allegations of serious prejudice in the context of broader market developments. The EC asserts that beginning the analysis in 2004 is appropriate because “it starts after the distorting effects of 9/11 ended.”¹⁰⁰⁶ But that is actually the best argument for beginning earlier. It is impossible to understand developments in 2004 without taking into account the period of depressed demand preceding that year. It is also difficult to appreciate trends in shipments and prices with only three annual data points.

809. To some extent, this is an academic argument, as the EC admits that it has freely used information preceding 2004 as it saw fit, and would freely use data for 2007.¹⁰⁰⁷ The United States, of course, should have the same opportunity.

5. *The EC has immensely overstated the magnitude of the alleged subsidies, both in aggregate and on a per-aircraft basis.*

a. The EC has systematically exaggerated and misstated the amount of the alleged subsidies to Boeing.

810. The magnitude of a subsidy subject to complaint under the SCM Agreement can be relevant to a panel’s assessment of serious prejudice and causation, as the panel in *U.S.-Upland Cotton* noted. To quote Appellate Body in that case, the smaller the subsidy “the smaller its likely impact on the prices charged by the recipient.”¹⁰⁰⁸

811. The EC, which cites the Appellate Body’s decision, has systematically exaggerated and misstated payments under the programs at issue in this dispute to portray the alleged subsidies to Boeing as “very large in absolute and relative terms.”¹⁰⁰⁹ The facts show that if there is any substance at all to the EC’s subsidy allegations, the value of any subsidy benefit is, by any reasonable measure, a tiny fraction of the EC’s claim. It is also insignificant relative to the value of the aircraft on which the alleged subsidies have allegedly been paid.

812. The EC has, for example, alleged that Boeing has benefitted directly from:

¹⁰⁰⁵ Airbus, *Key Determinants of Competitiveness in the Global Large Civil Aircraft Market*, p. 11 (Exhibit EC-719).

¹⁰⁰⁶ ECFWS, para. 1076.

¹⁰⁰⁷ ECFWS, para. 1076.

¹⁰⁰⁸ *U.S.-Upland Cotton (AB)*, para. 461.

¹⁰⁰⁹ ECFWS, para. 1069.

- NASA R&D funding of \$10.4 billion. In fact, Boeing and McDonnell Douglas received less than \$800 million under the programs at issue; the remaining \$9.65 billion were costs incurred by the U.S. government in running NASA or paid to NASA contractors other than Boeing and McDonnell Douglas. The EC asserts that, absent these programs, Boeing would have on its own incurred \$9.65 billion in NASA's expenses (including overhead) or in payments to other businesses that worked for NASA. The EC cites no support for this proposition and, in fact, there is none. As for the \$800 million paid to Boeing, NASA paid this sum in exchange for Boeing's performance of research on government projects. The only plausible subsidy claim, which the EC has not made, is that Boeing received more than adequate remuneration, a proposition at odds with the evidence.
- \$2.379 billion in Defense Department research, development, testing and evaluation ("RDT&E") funding. This claim suffers from the same basic flaw as the calculation of the NASA R&D benefit – that is, the EC has treated a portion of the entire Defense Department budget as a subsidy to Boeing, including payments made to other companies. Moreover, the evidence demonstrates that no Defense Department program conferred any benefit on Boeing's *commercial* aircraft operations.
- \$3.1 billion paid to Boeing under NASA and DOD programs for reimbursement of costs for independent research and development ("IR&D") and bid and proposal ("B&P") preparation. Only IR&D and B&P costs incurred by IDS are reimbursed by the government. These do not confer any benefit on Boeing's commercial operations, which pass their research and selling expenses on to commercial customers.
- \$726 million, ostensibly representing licensing fees related to patent rights retained by Boeing as a result of its performance of research under government contracts. As part of an arm's length transaction for no more than adequate remuneration, in which the government acquired valuable research services, results of research, and intellectual property rights, these conveyed no benefit.
- A \$3.45 billion subsidy that is, in fact, Washington State's *projection of future value* (through 2023) of a Business & Occupancy tax reduction that has only just gone into effect, and that applies to all aerospace companies. In fact, the actual value of the tax reduction taken so far has been \$54.4 million.
- \$783 million in alleged Kansas state and municipal subsidies, even though more than half of this amount comprises (1) future benefits, which are unlikely to accrue because of changes in the law, and (2) payments to an unrelated company.
- \$2.199 billion in benefits to Boeing under the FSC/ETI program. While the United States does not dispute that the FSC/ETI program involved a subsidy that

benefitted Boeing, this program has been terminated following a WTO ruling and Boeing no longer will be taking the benefit.

The EC has thus systematically exaggerated and misstated the amount of the alleged subsidies to Boeing. It has, the United States submits, done so because its adverse effects case depends on its claim that the alleged subsidies are very large and have, therefore, materially affected Boeing's pricing.

b. *The EC's magnitude analysis is unreliable.*

813. In the magnitude section of its serious prejudice analysis, the EC attempts to inflate its already inflated calculation of the alleged subsidies by calculating an "ad valorem subsidy rate" for each type of aircraft. The *US – Cotton Subsidies* panel had serious reservations about this type of argument, finding that there is "no textual basis" for the argument that there is an "obligation to precisely quantify the subsidies at issue in our serious prejudice analysis."¹⁰¹⁰ As the complainant in a dispute under the SCM Agreement has substantial latitude in how it attempts to frame a *prima facie* case, nothing prevents the EC from setting out this type of analysis. However, from the outset, the exercise has questionable relevance.

814. The EC lessens the reliability of the exercise still further by undertaking a fiendishly complicating calculation, with little explanation for many of the steps. It first attempts to allocate subsidies over time, expensing "recurring" subsidies to single-year periods, and "non-recurring" subsidies over multiple years.¹⁰¹¹ It then ascribes subsidies to particular products. This step is, in fact, self contradictory, as the EC insists in its description of the nature of the subsidies that most of the programs increase "non-operating cash flow," a figure connected with an entire enterprise, like BCA, rather than to a single product. The EC then takes this already complex calculation and allocates subsidies on a per-seat basis, and then allocates them back to particular aircraft based on the supposedly "typical" number of seats.

815. The EC provides no plausible explanation for undertaking these mathematical gyrations, other than to assert that per seat allocations avoid the overallocation of subsidies to smaller aircraft that would occur with a simple average.¹⁰¹² In fact, a calculation simply comparing the subsidy value with the order value for all large civil aircraft in each year would achieve the

¹⁰¹⁰ *US – Cotton Subsidies (Panel)*, para. 7.1179.

¹⁰¹¹ We note that the *US – Cotton Subsidies* panel found that there is "no textual support in the serious prejudice provisions in Part III for the United States argument that annually recurring subsidies must be "expensed" to one year alone, so that the "benefit" of the measure does not survive past that year." *US – Cotton Subsidies (Panel)*, para. 7.1179. Although the EC quotes extensively from that report elsewhere, it ignores the admonition in its magnitude calculation.

¹⁰¹² Exhibit EC-13, para. 33.

same result with much greater simplicity and comprehensibility. With regard to the only program found to a specific subsidy (FSC/ETI), that leads to the following result:¹⁰¹³

	Value of orders	FSC/ETI magnitude	Ratio of subsidy to order value
2000	\$32,591	\$266	1:122
2001	\$16,588	\$197	1:84
2002	\$12,585	\$179	1:70
2003	\$9,771	\$107	1:91
2004	\$16,650	\$153	1:109
2005	\$67,193	\$142	1:473
2006	\$61,579	\$140	1:440

Sources: Exhibit EC-17, p. 3; Exhibit US-933.

In short, since 2000, even under the scenario presented by the EC, subsidies have been small and declining in relation to the value of orders, even as the EC alleges that the prejudicial effects of the programs has supposedly increased.

816. One possible reason for the EC injecting such complexity into the calculation is that it masks a number of questionable EC assumptions that tend to inflate the EC's figures include:

- (1) The EC treats some alleged subsidies as affecting only the 787.¹⁰¹⁴ It does not explain why. In fact, one of the measures, the NASA Advanced Composites Technology program, would just as logically relate to other aircraft that contain composites, such as the 777. This assumption has the effect of inflating the value of alleged subsidies attributed to the 787.
- (2) The EC treats the 787-3 as having 80 seats fewer than it actually does. Since the EC allocates the alleged subsidies on a per-seat basis, this has the effect of allocating their value away from the 787-3 (which to date has been purchased

¹⁰¹³ To provide a conservative estimate, the United States accepts for the purposes of argument the EC's contention that FSC/ETI benefits have an effect at the time of order. However, as we explain below, that contention is not correct.

¹⁰¹⁴ Exhibit EC-13, Table 7.

only by Japanese airlines¹⁰¹⁵) to sales of other 787 models that play a greater role in the EC arguments.

- (3) The EC treats recurring alleged subsidies (such as FSC/ETI and the Washington State B&O tax rate reduction) as having been received at the time of order, even though Boeing does not receive the supposed benefit until the time of payment. This assumption has the effect of moving the benefit from the B&O tax rate reduction artificially forward in time, inflating the EC's *ad valorem* subsidy calculations on all Boeing aircraft.
- (4) When linking subsidies to aircraft, the EC frequently leaves out the 717. This is especially surprising because an exercise linking subsidies to particular aircraft should have attributed any subsidies allegedly received by McDonnell Douglas exclusively to the 717, which was the only large civil aircraft developed by that company during the period covered by the EC allegations. (However, such an analysis would have had the effect of lessening the value of alleged subsidies attributed to models that are the subject of the EC arguments.)

The effect of these assumptions is to allocate more alleged subsidies to the aircraft that are the focus of the EC's claims, thus artificially increasing the *ad valorem* subsidy.

c. The EC's definition of "competitive sales" is out of touch with commercial reality.

817. The EC tries to inflate the magnitude of the challenged subsidies (and exaggerate their effect) still further by arguing for attribution of the alleged subsidies only to what it believes are the "competitive sales campaigns."¹⁰¹⁶ The Panel should reject this argument, as the EC definition of a "competitive" sale excludes many sales in which price competition between Airbus and Boeing is highly relevant.

818. First, many large civil aircraft orders are exercises of options to purchase granted by the producer as part of prior orders. They give the customer the right to purchase additional large civil aircraft from the original manufacturer on the terms set in the original competition. Therefore, a producer bidding on the initial sale would have to take pricing on any options into account in making the bid. This is attractive for both parties. Once a customer has selected Airbus or Boeing large civil aircraft, it enjoys cost advantages in placing additional follow-on orders with the same manufacturer, which has the advantage of likely future sales. But more importantly, the price upon exercise of that option will have been affected by competition over the original order even if the other producer is not actively involved in the campaign.

¹⁰¹⁵ The number of such sales included in the EC's allegations of price suppression, lost sales, and market with regard to the 787 in Annex D of its first written submission is also informative.

¹⁰¹⁶ ECFWS, para. 1297.

819. For example, in 2004, AirAsia chose to purchase large civil aircraft from Airbus after an intense competition with Boeing in which it determined that “the offer from Airbus is priced well below Boeing’s.”¹⁰¹⁷ As a result of this campaign, AirAsia signed a Memorandum of Understanding with Airbus containing an order for 40 A320s plus options for 40 more. By the time that the actual purchase contract was announced on March 25, 2005, the order increased to 60 A320s plus 40 options.¹⁰¹⁸ According to AirAsia CEO Tony Fernandes, the airline decided to eliminate all of its existing 737s and to delay leases for 737s while waiting for A320 deliveries in order not to “sacrifice our cost structure.”¹⁰¹⁹ In July 2006, AirAsia converted its 40 options to firm orders for A320s and obtained 30 more options.¹⁰²⁰ Then, in January 2007, AirAsia converted its 30 options into firm orders, placed 20 new firm orders, and obtained 50 more options, bringing its total purchase from Airbus to 100 firm orders and 50 options to date.¹⁰²¹

820. All of these large civil aircraft orders by AirAsia are the outgrowth of the original 2004 sales campaign. But, according to the EC, only the initial 2004 campaign would be “competitive,”¹⁰²² in that Boeing was not involved in AirAsia’s March 2005 decision to expand the original order from 40 aircraft to 60, nor in AirAsia’s July 2006 decision to exercise the 40 options it negotiated as part of the 2004 sale, nor in AirAsia’s January 2007 decision to place 50 more orders and obtain 50 more options. This is plainly incorrect. The alleged subsidy would not only affect the first 40 or 60 AirAsia purchases, while having no impact at all on the subsequent orders for 90 more aircraft (and 50 outstanding options). Rather, the effect of any subsidy would be on both the initial sale and the subsequent orders, which were made directly with Airbus without a “new” competition because they were for all practical purposes decided in the original competition.

821. Even under the EC’s analysis, based on the faulty supposition that producers may shift “non-operating cash flow” among different transactions to fund “aggressive pricing,” subsidies would have to be considered applicable to sales arising from the exercise of options. That is because a producer directing its “non-operating cash flow” to support pricing on an order with options would have to consider that the pricing on the original order would also affect pricing on the options. The producer would have to commit future cash flow to underwrite prices for the options once they were exercised. Thus, the EC methodology is self-contradictory when it

¹⁰¹⁷ “Airbus to Beat Boeing Again,” *Wall Street Journal* (Nov. 8, 2004) (Exhibit US-364).

¹⁰¹⁸ Airbus press release, *AirAsia increases A320 commitment to 100 aircraft* (Mar. 25, 2005) (Exhibit US-271).

¹⁰¹⁹ Airbus press release, *AirAsia increases A320 commitment to 100 aircraft* (Mar. 25, 2005) (Exhibit US-271).

¹⁰²⁰ AirAsia press release, *AirAsia firms up options for 40 more Airbus A320s and signs another 30 options* (July 20, 2006) (Exhibit US-272).

¹⁰²¹ Airbus press release, *100 more A320s for AirAsia* (Jan. 8, 2007) (Exhibit US-273).

¹⁰²² ECFWS, para. 1221.

allocates alleged subsidies away from follow-on sales, because under the EC's theory, non-operating cash flow would have to support the low option prices that originated from the producer's low price on the initial sale.

822. Further, current market pricing is relevant even in "non-competitive" sales. A customer may, for the reasons already given or other reasons, not go through a formal competitive process, but only if it believes that it is getting a market price. If a customer thinks that holding a competition will drive down the price, it will do so.¹⁰²³ Thus, the specter of competitive pricing shadows every campaign, even those the EC would deem "non-competitive," and thus impacts the pricing in every campaign. Therefore, the EC's efforts to segregate so-called "non-competitive" sales, which has the effect of boosting its alleged "*ad valorem* subsidy" on other sales, is flatly inconsistent with market conditions. Indeed, the Campaign Annex contains examples of campaigns that meet the EC definition of "non-competitive" at which the EC is alleging price suppression or lost sales – a sure sign that its definition of "non-competitive" is unreliable.

6. *The EC analysis based on the Cabral report greatly overstates the "price effects" of the alleged subsidies by relying on assumption that are contrary to fact and a methodology that ignores conditions in the large civil aircraft industry.*

a. *The EC has provided no support for its contention that Boeing would lower its prices by any reduction in its taxes.*

823. The EC asserts the benefits it alleges Boeing received under various federal and state tax programs are reflected, dollar for dollar, in a reduction in the prices at which Boeing offered large commercial aircraft to its customers. The EC offers no evidence to support this assumption. Instead, it relies on the *assertion* that subsidies that "directly reduce Boeing's marginal unit costs" necessarily flow 100 percent through to Boeing's prices.

824. The position that the EC has taken on this issue is untenable. Boeing, like any profit maximizer, prices its aircraft at the maximum level the market will bear. There is no reason in fact or in economic theory to conclude otherwise. The idea that Boeing would choose to make less of a profit on its aircraft sales than it could by passing on a reduction in Federal or State taxes to customers is at odds with the very notion of market-driven pricing.

825. Beyond this basic point, the EC is wrong when it characterizes the tax programs at issue as a reduction in "marginal unit costs." They are, rather, programs that allow Boeing to keep more of its revenues. Moreover, there is a lag between order (*i.e.*, when prices are set) and delivery (when the tax benefits are realized), which averages three years and can be longer. As the U.S. decision to terminate the FSC/ETI program shows quite graphically, there is no

¹⁰²³ For an example of such a sale, see the U.S. Campaign Annex.

guarantee that a tax benefit under one of the programs at issue will remain effect at the time of delivery and, therefore, no sound basis for Boeing to factor the alleged subsidies into its pricing.

826. For all these reasons, the EC’s assertion that the benefits of the alleged tax programs (which, as noted, the EC exaggerates) is nothing more than assertion. It cannot support a conclusion that the effects of these programs have been to cause serious prejudice.

b. The Panel should disregard Prof. Cabral’s economic analysis.

827. The EC’s contention that Boeing’s “aggressive pricing” was driven by alleged “development subsidies” (the EC’s characterization) that are the functional equivalent of “non-operating cash flow” to Boeing,¹⁰²⁴ depends largely on a paper by Professor Luis M.B. Cabral of New York University’s Stern School of Business (the “Cabral Report”), which purports to quantify the impact on Boeing’s prices of development subsidies that the EC alleges have been granted to Boeing.

828. The EC correctly characterizes the “causation” test of the SCM Agreement as a “but for” test. Therefore, in evaluating the EC’s claim as to “price effects” of the alleged subsidies, the central question for the Panel is whether, and if so, how, the alleged subsidies at issue *changed* Boeing’s pricing in the LCA market. Rather than address this question based on empirical evidence, the Cabral Report and, by extension the EC, simply *assume* the answer. In this regard (and others), the Cabral Report is poorly reasoned and biased, and should be given no weight by the Panel.

829. The Cabral Report relies on a long series of mistaken foundational assumptions and dubious methodological choices. The most critical – this is only a partial list – are:

- Professor Cabral admits that his conclusion is valid only for firms that are constrained in their access to capital. He simply assumes, without evidence, that Boeing faces such constraints, an assumption that is demonstrably untrue, and invalidates his analysis from the outset.
- The model he uses to estimate the extent to which the alleged subsidies flow through to Boeing’s pricing is not suited to the task.
- The Cabral Report mistakenly posits that subsidies associated with work under government R&D contract are the functional equivalent of cash to Boeing equal to the cost or value of the government R&D program.

¹⁰²⁴ ECFWS, para. 1067.

- The Cabral Report’s assumptions (1) about the nature of the alleged subsidies, and (2) that Boeing has no options to invest in “the value of firm” beyond “aggressive pricing” and “product development” are wrong.
- The formula Professor Cabral uses to allocate the effects of the alleged subsidies between payments to shareholders, on the one hand, and “investment” in “aggressive pricing” and “product development” on the other, is indefensible; it makes an elementary mistake in comparing a figure that represents the average flow of dividends to shareholders during a year with the average value of stock in the company.
- The factual predicates on which Professor Cabral bases his analysis of Boeing’s “investment” in “aggressive pricing” to realize “learning curve efficiencies” of production and to cover the “switching costs” associated with its LCA sales are demonstrably false.

Three experienced economists, Dr. James Jordan and Dr. Gary Dorman of NERA, and Bruce Greenwald, Robert Heilbrunn Professor of Finance and Asset Management at Columbia Business School have reviewed the Cabral Report and commented on these and other of its errors. We have submitted their critiques as Exhibits 3 and 8.¹⁰²⁵

830. Another issue that warrants comment is Professor Cabral’s use of what Professor Greenwald refers to as the “welter of complex and unnecessary mathematics.” In one of the more egregious examples, Professor Cabral sets out Boeing’s annual commercial aircraft deliveries for the seven year period 2000-2006. Based on these large civil aircraft delivery data, Professor Cabral proceeds to:

“estimate that during the period 2000-2006, Boeing’s annual deliveries in terms of average aircraft were given by

$$\bar{q} = \frac{1}{7} \times \frac{\sum q_i s_i}{\bar{s}} = 378”$$

¹⁰²⁵ Dr. James V. Jordan and Dr. Gary J. Dorman, *Reply to the Report of Professor Cabral* (July 3, 2007) (“Jordan and Dorman Paper”) (Exhibit US-3); *Comments by Bruce C. Greenwald, Robert Heilbrunn Professor of Finance and Asset Management, Columbia Business School, on Professor Luis M.B. Cabral’s March 2007 Paper (the “Cabral Report”) on the Impact of Development Subsidies to Boeing* (June 29, 2007) (“Greenwald Paper”) (Exhibit US-8).

Another way of saying the same thing is that Professor Cabral has calculated the average number of aircraft delivered annually over the seven year period 2000-2006 by adding total deliveries during the period and dividing by seven:

$$\text{average annual deliveries}_{(2006-2007)} = \frac{\text{total deliveries}}{7}$$

831. If the Cabral Report were less opaque, its flaws would be more apparent.

- (i) *The Cabral analysis relies on the assertion that Boeing faces constraints on its access to capital, which is demonstrably untrue and contradictory to the relevant economic literature.*

832. Professor Cabral assumes, without explanation and against all evidence, that Boeing's access to capital markets is significantly constrained. Without this key assumption, Cabral himself concedes that the alleged subsidies would not have any impact on Boeing's pricing.

The framework relies on a number of assumptions that are worth considering in greater detail. In particular, a traditional perfect market's approach would lead to a different result. ... In this context, as firms have unconstrained access to capital ... an increase in government subsidies would be entirely reflected in higher dividends; it would have no effect on the investment level.¹⁰²⁶

The results of his modeling exercise, therefore, wholly depend on the assumption that Boeing's access to capital markets is "constrained."

833. Yet, he offers no evidence of such constraints. Dr. Jordan, Dr. Dorman, and Professor Greenwald agree that Professor Cabral's inability to point to any material constraints on Boeing's access to capital markets is, alone, sufficient to invalidate his conclusions.

834. To quote Professor Greenwald:

The critical assumption here is that of constrained access to capital. Markets may be imperfect and firms may make less than optimal decisions, but as long as firms have largely unrestrained access to capital, non-specific subsidies which amount to fixed transfers – the kind of subsidy at issue in the Cabral Report – will not affect firm investment decisions. Funds that flow from transfers will merely substitute for funds that flow from other sources – most obviously

¹⁰²⁶ Cabral Report, p. 7, para. 22 (Exhibit EC-4).

borrowing – and investment decisions will be unaffected. Cabral simply assumes when he writes his overall investment constraint – *i.e.*, that investment plus dividends must be less than subsidies plus other sources of funds – that other sources of funds are fixed and cannot be increased at essentially constant cost by borrowing in financial markets. For a company like Boeing, with relatively little debt which regularly repurchases large amounts of its stock, it should be obvious that no such constraint exists.”¹⁰²⁷

835. Dr. Jordan and Dr. Dorman echo Professor Greenwald’s views:

As discussed below, Professor Cabral’s key conclusions depend on the assumption that Boeing faces significant capital constraints that prevent it from making optimal investments. He lists reasons why capital markets may be imperfect, such as “informational asymmetries” and “imperfect information” but he never analyzes whether Boeing’s access to external capital has been constrained by such factors.¹⁰²⁸

836. To support his assumption that Boeing’s access to capital markets is constrained, Professor Cabral cites to a paper by Fazzeri, Hubbard, Petersen, Blinder and Poterba which, in turn, cites to work done by Professor Greenwald (among others) as “representative” of the economic literature on point:

Various authors have shown that firm investment is sensitive to cash flow. This result is consistent with the above view of informational asymmetry and resulting separation between an “internal” and “external” capital market. The objective function approach I propose, while not spelling out the details of internal and external capital markets, is consistent with the empirical evidence, namely the evidence that increases in cash flow lead to a higher level of investment.”¹⁰²⁹

837. Professor Greenwald disputes Professor Cabral’s characterization of the economic literature:

In fact, the applicable literature generally concludes that while many firms are constrained in their access to capital, and do adjust investment levels in response to current cash flows, firms like

¹⁰²⁷ Greenwald Paper, p. 1-2 (Exhibit US-8).

¹⁰²⁸ Jordan and Dorman Paper, p. 1-2 (Exhibit US-3).

¹⁰²⁹ Cabral Report, p. 8, para. 25 (Exhibit EC-4).

Boeing, with low debt levels and high dividend/share repurchase, are not.¹⁰³⁰

838. So too do Dr. Jordan and Dr. Dorman:

{Professor Cabral} claims that ‘...increases in cash flow lead to a higher level of investment.’ This statement refers to internal cash flow, *i.e.*, cash flow that does not depend on access to external financing. This is not what the research shows. There is a theory that increases in cash flow lead to more investment for financially *constrained* firms, which are firms that have restricted access to external financing, but empirical evidence on this theory has produced ambiguous results. Some studies have found a correlation between changes in internal cash flow and investment spending, and the correlation depends on the existence and the degree of financial constraint. Other studies have cast doubt on these results because of difficulties in reliably identifying financially constrained firms and the possibility that cash flow and investing are correlated not because of financial constraints, but because both are affected by the firm’s investment opportunities.¹⁰³¹

839. There is, in short, no justification for Cabral’s essential assumption that Boeing’s access to capital markets is constrained, and thus no justification for the central premise of his report: that alleged subsidies affect Boeing’s pricing.

(ii) *Boeing’s cash flow statements disprove Professor Cabral’s central thesis, namely that “non-operating cash flow” drives Boeing’s investment decisions.*

840. While Professor Cabral’s model posits that internally generated cash flow funds firm investment,¹⁰³² he does not bother to examine Boeing’s cash flows to determine whether they were adequate without the alleged subsidies to fund Boeing’s “investment” in its large civil aircraft operations during the reference period. In fact, they were.

For each of the past seven years, BCA has funded its operations, including its investment in both general research and development and product-specific research and development, from its operating cash flow, which has been sufficient not only to cover all of BCA’s operating costs, but also to transfer cash to Boeing’s corporate

¹⁰³⁰ Greenwald Paper, p. 2 (Exhibit US-8)

¹⁰³¹ Jordan and Dorman Paper, p. 5 (Exhibit US-3).

¹⁰³² Cabral Report, p. 8, para. 4 (Exhibit EC-4).

headquarters for use by the Boeing Company in non-BCA applications (e.g., dividend payments, stock repurchases, acquisitions, debt retirement.”¹⁰³³

In other words, BCA did not need (or use) the alleged subsidies as a source of cash to support any aspect of its LCA business.

(iii) *The Cabral Report erroneously treats the alleged subsidies as the equivalent of cash to Boeing.*

841. Professor Cabral is also mistaken in his assumption that the “development subsidies” allegedly given to Boeing are the functional equivalent of cash to Boeing. As the United States has demonstrated, the alleged development subsidy programs that are the subject of Professor Cabral’s analysis involve (1) research and development work performed by Boeing under government contract for which Boeing receives no more than adequate remuneration; and (2) the U.S. government’s own R&D which is made available to the public, including to Boeing. Professor Cabral’s model assumes the total amounts spent on government funded R&D, including the overheads of the relevant government agencies, i.e., \$16.9 billion in current dollars during the period 1989-2006,¹⁰³⁴ are the equivalent of cash to Boeing.¹⁰³⁵ However, neither the EC nor Professor Cabral has proven that the funding is for work that Boeing would have otherwise done on its own and in amounts that Boeing would otherwise have spent on its own. Without such proof, the value that Professor Cabral puts into his model and, therefore, the results of that model are completely unreliable.

(iv) *The Cabral Report unrealistically assumes that Boeing will always maintain the same division between dividends and investments, without regard to external conditions.*

842. Another mistaken assumption of the Cabral model is that a firm like Boeing maximizes a “Cobb-Douglas” function of dividends and investment.¹⁰³⁶ The application of a Cobb-Douglas function would be appropriate if Boeing allocates its funds between payments to shareholders and investment in a fixed and unchanging ratio. Such a function does not model Boeing’s actual behavior. It does, however, suit Professor Cabral’s purposes because it allows him to conclude that increased subsidies (assuming there is a financing constraint, which there is not) are always proportionately divided between dividends and investments. To quote Professor Greenwald:

¹⁰³³ Statement of Robert J. Pasterick, Vice President and Chief Financial Officer for BCA (Exhibit US-274).

¹⁰³⁴ Cabral Report, p. 31, para. 86 (Exhibit EC-4).

¹⁰³⁵ Cabral Report, p. 9, para. 29 (Exhibit EC-4).

¹⁰³⁶ Cabral Report, para. 18, p. 6 (Exhibit EC-4).

A theoretical consumer who maximizes a Cobb-Douglas objective function over consumption levels of goods (food, cars, medical care, housing, etc.) spends a constant fixed proportion of his income on each type of good regardless of the relative prices of these goods or the consumer's level of income. If the price of medical care doubles, this consumer does not increase the proportion of his income devoted to medical care. He simply cuts his use of medical care in half. This leaves his food consumption unchanged. If his income doubles, both his food spending and medical care spending exactly double.

It should be clear that Cobb-Douglas behavior for decision-makers bears no sensible relationship to reality. It does, however, directly lead to Cabral's conclusion that increased subsidies (assuming there is a financing constraint) are always proportionately divided between dividends and investments.¹⁰³⁷

- (v) *The Cabral Report's allocation of alleged subsidies to aggressive pricing and product development depends on an obvious faulty of analysis*

843. To "demonstrate" that Boeing devotes the vast majority of the alleged subsidies to investment in "aggressive pricing" and "product development," Professor Cabral next derives the allocation of the subsidies between payments to shareholders and investment in "aggressive pricing/product development" by reference to the ratio of Boeing's average annual payments to shareholders (dividends/stock repurchases) during the period 2000-2006 to Boeing's average annual stock market value over the same period. Here, his error is elementary:

In order to "demonstrate" that Boeing, in this constant proportions mode, devotes the vast majority of any subsidy to investment, Cabral makes a particularly egregious assumption. He assumes that dividends count in Boeing's objectives commensurately with the total market value of the company – *i.e.*, he assumes, without bothering to offer a justification, that Boeing "maximizes $d^{\alpha}V^{(1-\alpha)}$ " where d and v refer, respectively, to dividends and the market value of the company.¹⁰³⁸ It should be obvious that these two quantities are incommensurable. One, dividends, is an annual flow. The other, the market value of the company, is a stock which is fixed at any moment in time.

¹⁰³⁷ Greenwald Paper, p. 23 (Exhibit US-8).

¹⁰³⁸ Cabral Report pp. 5-8, paras. 15-25 (Exhibit EC-4).

It is as if Professor Cabral were trying to capture the preferences of a household for rental versus owned housing by assuming that the correct measure is the ratio of annual rent paid for a house to its value. Since annual rent is perhaps \$12,000 and the value of the house is, perhaps, \$240,000, he would conclude that a household is prone to allocate the vast majority of its resources to owned housing (i.e., \$240,000 of \$252,000).¹⁰³⁹

- (vi) *The Cabral Report’s assumption that Boeing has only two “investment options” – “aggressive pricing” and “product development” ignores Boeing’s actual uses of its cash flow.*

844. An additional and significant structural defect in Professor Cabral’s model is his assumption that Boeing’s investment options “to increase the value of the firm” are restricted to investment in “aggressive pricing” and investment in “product development.” As Dr. Jordan and Dr. Dorman note:

{U}nlike the models in the literature, Professor Cabral allows only two uses of the firm’s cash: dividends and investment. The model does not consider other uses . . . of cash, such as repayment of debt, acquisitions, contributions to the corporate pension fund, and payments for operating expenses and interest. Nor does the model consider the effect of other sources of cash¹⁰⁴⁰

845. In fact, a quick review of Boeing’s consolidated statements of cash flows is enough to highlight Professor Cabral’s error. They show that Boeing “invests” billions of dollars every year in (1) net investment to property, plant and equipment, (2) acquisitions (net of cash acquired), (3) net investment in marketable securities, (4) debt repayment, (5) pre-paid pension expenses and/or (6) increases in its cash balance. Indeed, when dividend payments and stock repurchases are added to these uses of cash, the use of virtually all of Boeing’s cash flow is accounted for.¹⁰⁴¹

- (vii) *The factual assumptions regarding the production and sale of large civil aircraft that Professor Cabral has fed into his model are demonstrably false.*

846. The Cabral Report compounds the problems associated with the structural defects embedded in Professor Cabral’s model by feeding the model with “facts” regarding the economics of LCA production and the nature of the LCA market, as well as Boeing’s LCA

¹⁰³⁹ Greenwald Paper, pp. 3-4 (Exhibit US-8).

¹⁰⁴⁰ Jordan and Dorman Paper, p. 4 (Exhibit US-3).

¹⁰⁴¹ Statement of Harry S. McGee III, Boeing’s Vice President of Finance and Corporate Controller (Exhibit US-376).

operations, that are demonstrably false. The result is a set of conclusions that bears no relationship to reality.

(A) *Professor Cabral misstates the nature of the production “learning curve” efficiencies and “switching costs”*

847. Professor Cabral is mistaken in implying that BCA is in a position to take advantage of the alleged subsidies by reducing its pricing for “learning curve” reasons.¹⁰⁴² As Professor Cabral states, significant learning curve efficiencies occur over production of the first one hundred or so units of a new aircraft. Professor Cabral is wrong, however, in asserting that learning curve efficiencies associated with the production of a new aircraft apply to the production of the first one hundred units of each (or, for that matter, any) subsequent variants of that aircraft.¹⁰⁴³ Professor Cabral is also wrong in asserting that an LCA producer will lower its prices in a campaign-specific context to achieve learning curve gains.

848. Learning curve efficiencies are factored into a producer’s projected costs at the time a launch decision is made. At the same time, the producer projects pricing targets for the new aircraft that, over its projected life, must exceed the producer’s fully loaded average production costs by an amount sufficient to justify the investment. These pricing projections account for concessions that are routinely granted to launch customers (*e.g.*, because the launch customers take a risk in committing to a new aircraft before its success is assured) before the volume of production is sufficient to generate learning curve efficiencies. And, because the learning curve is factored into the pricing targets at the time the program is launched, there is no expectation of subsequent campaign-specific “learning curve” adjustments to price:

When Boeing launches a new aircraft model, the launch decision includes product pricing projections and cost projections. In a launch decision, Boeing decides whether or not to proceed by comparing the pricing it believes the aircraft will command over its life and the projected volume of sales against the program costs, taking account of non-recurring investments and recurring costs including anticipated learning curve efficiencies. Once a launch decision is made, Boeing’s pricing is market driven. That is, Boeing seeks to achieve the highest market value for its products, taking market conditions at the time of sale into account.

While included in Boeing’s program cost projections, learning curve efficiencies are not separately factored into pricing in

¹⁰⁴² Cabral Report, pp. 20-24, paras. 53-68 (Exhibit EC-4).

¹⁰⁴³ Cabral Report, p. 22, para. 61 (Exhibit EC-4). The United States has serious reservations with Prof. Cabral’s conclusion that learning curve efficiencies occur only over the first 100 units produced. However, this point is a tangential flaw in comparison with the major errors that permeate the analysis and, therefore, we assume *arguendo* for purposes of this discussion, that the assumption is not incorrect.

individual sales campaigns. ... Concessions to launch customers are primarily a function of the risks that the first customers assume in committing to the new aircraft, and of the producer's interests in convincing the market that demand for the new aircraft is significant.¹⁰⁴⁴

(B) *Professor Cabral Misstates the Nature of "Switching Costs."*

849. The issue of switching costs (i.e., the costs that an airline bears in switching its fleet from one manufacturer's aircraft to another's), by contrast, arises in a sales campaign-specific context. However, the claim that Boeing's commercial aircraft division, BCA, can take advantage of the alleged subsidies by granting switching cost concessions that, absent the subsidy, it would not grant presupposes that (1) the subsidies are visible to, and available to, BCA, and (2) the additional price concessions would not make good business sense "but for" the subsidies.

850. Neither supposition is correct. Virtually none of the alleged subsidies are available to BCA – indeed, BCA's pricing team generally is not even aware of them when payments under the government programs at issue are given to Boeing. It would, therefore, be impossible for BCA to factor the alleged subsidies into its pricing decisions in sales campaigns:

When Boeing makes a launch decision, its business case is based on expectations regarding prices, sales volume and costs over many years. It would be impossible to take account of the subsidies that the EC alleges are given to Boeing in the program pricing targets at the time of launch or in subsequent sales campaigns, because the BCA pricing team does not consider, and is generally not aware of, payments made to other business units, and, in any event, there is no assurance that the alleged subsidies will be available over the life of the program.¹⁰⁴⁵

851. In addition, because Professor Cabral misstates the nature of switching costs – he mistakenly assumes they apply when a customer introduces a new "generation" of a particular LCA family (e.g., the 737-800) into its fleet¹⁰⁴⁶ – he greatly exaggerates the frequency with which Boeing even considers a price concession for switching cost reasons. In fact, of Boeing's 2,644 LCA deliveries between 2000 and 2006 examined by Professor Cabral, no more than 120 involved "switching costs."¹⁰⁴⁷

¹⁰⁴⁴ Statement of Clay Richmond, Vice President Revenue Management, BCA, paras. 2 and 3 (Exhibit US-275).

¹⁰⁴⁵ Statement of Clay Richmond, para. 9 (Exhibit US-275).

¹⁰⁴⁶ Cabral Report, p. 24, para. 67 (Exhibit EC-4).

¹⁰⁴⁷ Statement of Clay Richmond, para. 8 (Exhibit US-275).

(C) *The Cabral Report grossly overstates the portion of Boeing’s large civil aircraft deliveries that could possibly involve learning curve or switching cost price concessions.*

852. Professor Cabral’s model posits that Boeing gave learning curve price concessions on 13.5 percent of the LCA that it delivered during the period 2000-2006.¹⁰⁴⁸ He reaches this conclusion by ascribing learning curve efficiencies to each new version of a Boeing LCA family that has a cumulative production “lower than 100 units.”¹⁰⁴⁹ He fails to recognize, however, that while learning curve gains may be significant over production of the first 100 units or so of a new type of aircraft, they are insignificant for “new versions” of a previously introduced aircraft. Because, for example, the differences between producing a 737-700 and a 737-800, both of which are assembled at Boeing’s Renton, Washington factory and share a common wing, fuselage, cockpit and most other components, are minor, the learning curve efficiencies associated with early production of the 737-700 and 737-800 were essentially zero:

In considering learning curve efficiencies, it is important to distinguish between the introduction of (1) a new aircraft model (e.g., the 737NG), and (2) variants of that model (e.g., the 737-700, 800 or 900). The ‘learning curve’ efficiencies are insignificant for new variants of an already introduced aircraft.

An analysis that ascribes steep learning curve efficiencies to the production of variants of existing model misstates the economics of large civil aircraft production insofar as Boeing’s actual ‘learning curve’ experience is concerned.”¹⁰⁵⁰

853. A review of Boeing’s 2,649 LCA deliveries that Professor Cabral has selected for analysis¹⁰⁵¹ shows that none of them involved significant learning curve gains, i.e., production of each major model delivered in the 2000-2006 period had exceeded 100 before the year 2000. Therefore, Professor Cabral’s conclusion that between 2000 and 2006 Boeing “invested” \$438 million in “aggressive prices” for learning curve reasons is plainly wrong.¹⁰⁵² The correct figure for Boeing’s 2000-2006 learning curve “investment” in the pricing of these sales is “zero,” or “close-to-zero.”

¹⁰⁴⁸ Cabral Report, p. 22, para. 61 (Exhibit EC-4).

¹⁰⁴⁹ Cabral Report, p. 22, para. 61 (Exhibit EC-4).

¹⁰⁵⁰ Affidavit of James Hayes, Director of Estimating and Pricing for the 787 Program, paras. 3 and 4 (Exhibit US-276).

¹⁰⁵¹ Cabral Report, p. 19, para. 52, Table 4 (Exhibit EC-4).

¹⁰⁵² Cabral Report, p. 23, para. 62 (Exhibit EC-4).

854. The Cabral Report assigns switching costs to all purchases by an airline “that has not bought aircraft of the same *generation* and family before.”¹⁰⁵³ On this basis, he estimates that “37.4% of Boeing’s sales are to new customers of that particular aircraft family.”¹⁰⁵⁴ As with the “learning curve,” Professor Cabral badly misunderstands switching costs and so badly overstates the alleged subsidies he attributes to “switching cost” investment.

855. The instances in which switching costs lead to price concessions are, in fact, relatively rare. They occur when an airline decides to buy a new suppliers’ current generation aircraft instead of buying additional current generation aircraft from the incumbent supplier as, for example, happened at easyJet in 2002.¹⁰⁵⁵ In order to make the sale, the new supplier (in the easyJet example, Airbus) has to price its aircraft sufficiently below the price offered by the incumbent supplier (in the easyJet example, Boeing) to compensate the airline for the costs of switching suppliers. By contrast, price concessions relating to switching costs are not a factor in sales of (1) a new type of large civil aircraft (e.g., the 787),¹⁰⁵⁶ (2) a new generation of a type of aircraft that an airline already operates (e.g., the purchase of a 737-800 by an airline that operates 737-300s),¹⁰⁵⁷ or (3) a new variant of a type of aircraft that an airline already operates (e.g., the purchase of a 737-800 by an airline that operates 737-700s).¹⁰⁵⁸

856. Because Professor Cabral mistakenly ascribes switching costs to sales by Boeing of LCA where switching costs were not at issue, he improperly concludes that 37.4 percent of Boeing’s 2000-2006 LCA deliveries involved “investment” in switching cost concessions. In fact, Professor Cabral’s estimate that 37.4 percent of Boeing’s 2000-2006 deliveries involved “switching cost” concessions is off by at least 32.9 percentage points – only 4.5 percent of the 2,644 deliveries of Boeing LCA in the period 2000-2006 involved the type of “switching costs” that could have led to a “switching cost” price concession.¹⁰⁵⁹

(viii) Professor Cabral’s quantification of the effects of the alleged subsidies is invalid because it relies on misplaced assumptions and false assertions of fact.

857. The Cabral Report concludes with a set of very detailed results – e.g., one dollar in subsidies is divided into “15 cents in dividends . . . 12 cents in more aggressive pricing of new aircraft . . . 47 cents in more aggressive pricing of sales to new buyers . . . and 26 cents in research and development towards new aircraft or improved versions of existing aircraft.” (Cabral Report at para. 82, p. 29.) Professor Cabral then translates this into price reductions expressed as a

¹⁰⁵³ Cabral Report, p. 24, para. 67 (emphasis added) (Exhibit EC-4).

¹⁰⁵⁴ Cabral Report, p. 24, para. 67 (Exhibit EC-4).

¹⁰⁵⁵ Statement of Clay Richmond, paras. 5-8 (Exhibit US-275).

¹⁰⁵⁶ Statement of Clay Richmond, para. 5 (Exhibit US-275).

¹⁰⁵⁷ U.S. Campaign Annex, paras. 110-114 and 131-133.

¹⁰⁵⁸ Statement of Clay Richmond, para. 6 (Exhibit US-275).

¹⁰⁵⁹ Statement of Clay Richmond, para. 8 (Exhibit US-275).

percentage of a dollar of aircraft sales. Given that the model depends on a series of invalid assumptions and misstatements of, and/or disregard for fact, Professor Cabral's claim to have calculated the effects of the alleged subsidies is stunning. That he further claims to have calculated effects to this degree of precision is absurd. Not surprisingly, Professor Cabral's conclusions do not stand up to real-world testing.

(ix) *The Cabral Report conclusions fail a real-world test.*

858. A real-world test of Professor Cabral's conclusions regarding Boeing's "investment" in "aggressive pricing" for learning curve, switching cost or any other purposes is to examine the shifts in market share associated with the 2000-2006 deliveries that Professor Cabral has selected for analysis. Over this period, Boeing's share of the global LCA market measured by volume of its deliveries dropped from 61 percent to 47 percent. These data indicate that far from pricing its aircraft "aggressively," Boeing was, in fact, being systematically underpriced by Airbus (which gained the market share Boeing lost). Indeed, market participants have commented on Boeing's efforts to *maintain* its prices despite the pressure from Airbus until its market share losses forced a change. The Chairman of ILFC, the largest LCA leasing company, was reported by the *Seattle Post-Intelligencer* on June 13, 2005 as saying:

Boeing has changed its attitude, Chairman Udvar-Hazy said: It took Airbus to beat them. That created an earthquake in Seattle. It got Boeing to roll up its sleeves and become more in tune with marketplace.¹⁰⁶⁰

859. The reason Boeing resisted pressures to lower its prices for years was, of course, that there are real and significant long-term costs to price reductions, which tend to spread through the market quickly. After Airbus lowered its prices on sales of single aisle aircraft at easyJet, other airlines expected similar price concessions. The Cabral Report nevertheless treats "investment" in aggressive pricing as having no downside consequences; it simply assumes that aggressive pricing increases firm value without any thought to the negative consequences for the future of the business. That is not the case, as a recent article in *Jetrader* shows. The article notes that Airbus' A319/A320/A321 pricing has led to the market values for Airbus' single aisle airplanes that are consistently below the values of comparable Boeing 737s:

The A320 family has less value, {Fred Klein, president of Aviation Specialists} says, because of what the market believes and because, "to me, you can describe it in two words: supply discipline. Airbus keeps the {production} tap open wider than Boeing and cuts prices

¹⁰⁶⁰ James Wallace, "Aggressive Sales Style Helps Boeing Sale Past Airbus," *Seattle Post-Intelligencer* (June 13, 2005) (Exhibit US-348).

to move airplanes. In my opinion, cutting on new prices hurts long-term values.¹⁰⁶¹

860. A robust analysis of a firm's propensity to invest its cash in "aggressive pricing" instead of distributing the cash to shareholders (or investing in other ways) would have to factor into the analysis the costs of the aggressive pricing in terms of profit margin reductions and the impact of a reduction in profit margins on the market value of the firm. Professor Cabral does not consider these costs in his analysis, which is yet another reason to dismiss the Cabral Report for its lack of integrity.

c. *The Panel should disregard the per-plane "price effects" or "price reduction" calculations based on the numerical output of the Cabral Report.*

861. The EC compounds the pervasive errors in the Cabral Report by taking its results and attempting to express them in the form of a price effect particular to individual models and derivatives of the 737, 747, 787, and 777 sold during the 2004-2006 period. As an initial matter, the EC's use of the results of the Cabral Report, which are inconsistent with observable fact and without a credible theoretical foundation, is enough to invalidate the calculation by itself.¹⁰⁶² However, the EC then proceeds to attribute different levels of price effects to the models based on formulas that it never explains.¹⁰⁶³ The result bears no relation to reality, and should be given no weight by the Panel.

* * * * *

862. For the reasons stated above, and at greater length in the attached comments of Professor Greenwald and Dr. Jordan and Dr. Dorman, as well as in the attached Boeing affidavits, the Cabral Report fails to establish the "causal link" required by the SCM Agreement between the price effects of the alleged subsidies and serious prejudice to the interests of the EC. The EC has a burden of presenting *evidence* to support its claim of serious prejudice "through the effects" of the subsidies it alleges. An economic model that is *structurally deficient*, that *assumes what it purports to prove*, and that is then fed with *data contrary to fact* cannot, and does not, meet this test. Because the EC depends so heavily on the Cabral Report to support its "causation" argument, and the Cabral Report is so flawed, the EC's entire serious prejudice case must fail.

¹⁰⁶¹ Scott Hamilton, "Airbus Targets Appraisers on Value," *Jetrade*, June 2007, p. 12 (Exhibit US-277).

¹⁰⁶² We note that although the calculation uses Professor Cabral's results, it does not appear in his report, suggesting that he was unwilling to endorse it.

¹⁰⁶³ ECFWS, paras. 1331-1332.

7. *The EC's assertions regarding the nature of the alleged subsidies do not support its arguments that they had an effect on prices.*

863. Independent of the Cabral analysis, the EC also contends that the alleged subsidies by their very nature affect prices. Its argument fails from the outset because it both lumps together contractual research subsidies with goods and services subsidies (which must have a separate analysis to address their many differences) and also fails to distinguish between subsidies direct to BCA and subsidies to IDS and unrelated companies. It also shows nothing about the nature itself of any of the challenged programs that even suggests an effect on prices.

864. ***Tax reduction programs.*** Leaving aside that these tax reduction programs are not actionable subsidies, the EC errs in assuming that Boeing would reduce its price in response to a tax reduction.¹⁰⁶⁴ Boeing has every incentive to seek as high a price as possible from the customer in every sale. That does not change when the State of Washington, Kansas, or the U.S. government cuts taxes. The incentive for Boeing is to attempt to avoid lowering prices so that it can keep the tax reduction in the form of higher profits to return to shareholders or devote to other worthwhile investments.

865. The EC presents no fact-based argument for the proposition that Boeing would cut prices in response to a tax reduction. It merely asserts that the prohibition in Article VI:5 on applying antidumping and countervailing duties “to compensate for the same situation of dumping and export subsidization” implies that there is a one-for-one correspondence between export subsidies and reductions in export prices. This view is fallacious. First, Article VI:5, in applying when antidumping and countervailing duties cover “the same situation of dumping and export subsidization” implies that if the “situation” is not the “same,” both types of duties are appropriate. Second, even the EC admits that B&O tax applies to domestic sales, so it cannot be an export subsidy. Third, panels and the Appellate Body have stated clearly that principles for precise calculation of countervailing duties are not relevant to actionable subsidy claims under Part III of the SCM Agreement. Therefore, there is no basis to conclude that tax reduction subsidies equate to price reduction effects.

866. ***Contractual research payments.*** A contractual research payment by definition results in a payment by the government for some activity undertaken by the contractor. As we noted above, determining the “effect” of a subsidy involves a “but for” analysis, namely, an inquiry into how the situation as it exists differs from the situation that would have existed in the absence of the alleged subsidy. Thus, in analyzing payments to conduct research projects, the first inquiry is how the situation would have differed if the government had not made the payment.

867. Even if the purchase of a service such as research could be a “subsidy” – which it cannot – the EC’s theory that contractual research payments have a positive effect on Boeing’s non-operating cash flow ignores several key undeniable facts:

¹⁰⁶⁴ ECFWS, para. 1306.

- Boeing conducts research of interest to the U.S. government based on the government’s specifications and contract requirements.
- In this regard, it is worth recalling that, performing research under a contract, Boeing loses the right to charge the government (and other companies involved in government contracts) a fee for use of patents and data rights ceded to the government under the contract. The very fact that Boeing agrees to perform research under these conditions provides a strong indication that Boeing does not consider the research to have commercial value.
- Likewise, when Boeing performs research under a NASA contract, the results are in most cases disseminated to the broader community. Again, if Boeing considered the research to have commercial value, it would not agree to perform the research under these conditions.
- Further, given that any technology resulting from military research would generally be subject to export control, it would, for practical reasons, not be usable in large civil aircraft. Therefore it would not save money in the development of large civil aircraft.
- The conduct of military research with potential dual uses by IDS did not reduce research spending with regard to the 787, since Boeing used only technology with documented civil origin for that aircraft.

868. The EC argues that but for the alleged subsidies, BCA would have had to incur higher R&D costs, and, based on this premise, asserts without support that BCA would need to have funded those increased costs through higher prices.¹⁰⁶⁵ The considerations set out above demonstrate that the EC’s conclusion on the “nature” of the programs stands on a false premise: there is no evidence that in the absence of the alleged subsidies, BCA would have spent more for large civil aircraft research. And, even if Boeing would have incurred increased costs, the EC provides no evidence that Boeing’s pricing would have been different.

869. **Government facilities and personnel.** An evaluation of the price effect of such programs would require an inquiry into whether the goods or services reduced the recipient’s costs or increased its revenue and, if so, how that change affected its prices.

870. The EC has provided only conjecture, and no evidence, that the alleged provision of services – activities of NASA personnel, DoD personnel, and State of Washington – affected BCA’s costs or revenue. As we have shown, the personnel were performing government duties for their government employers and, therefore, did not do anything that Boeing employees would have had to do in the absence of the alleged “subsidy.” The infrastructure also would have had

¹⁰⁶⁵ ECFWS, para. 1245.

no effect on Boeing. To follow the “but for” analysis, in the absence of the state program, Boeing would not have had the option of building an additional lane on I-5 or improving SR526 on its own. Therefore, BCA would not have experienced any change in its cost or revenue.

871. **Other programs.** The absence of DoD B&P reimbursements would not have affected BCA at all, as it receives no reimbursement for its share of any B&P expenses incurred in assembling DoD bids that involve BCA products. It is true that in the absence of B&P reimbursements, IDS would have to pay those expenses out of its own funds. However, to the extent that such payments eroded its profit on DoD sales, the agency would have had to agree to increase the fee element of its contracts to keep profits at a level at which private suppliers like Boeing were willing to contract with DoD.

872. Finally, the EC speculates that, in the absence of KDFFA bonds, Spirit AeroSystems would have paid Boeing less for the purchase of its Wichita facility. There is no credible support for this speculation. Similarly, the EC assumes that the grant to Edmonds Community College reduced Boeing’s expenses. However, the only effect of such a grant would be on the college and its students, and the EC has provided no evidence that such an effect would be passed through to Boeing.

873. **The EC analysis.** The EC simply lumps together contractual research payments, government facilities and employees, and other programs. It does not consider how Boeing or BCA would have responded to the absence of any particular program or group of programs, or how such an absence would affect the company’s finances or prices. Instead, it simply assumes that each alleged subsidy results in a one-for-one addition to “non-operating cash flow.” That is, the EC assumes that a dollar spent by the government on a contractual research payment or the salary of a government employee increases the non-operating cash flow by one dollar. Its economic consultant then uses that assumption in a modeling exercise to project how Boeing would spend each of those dollars. The previous section addressed the fallacies of the economic model and its inapplicability to this matter. The important point for this section is that, although the EC devotes a great deal of space to describing the “nature” of the various alleged subsidies, its analysis of how that nature has an “effect” on Boeing consists exclusively of the simplistic assertion, with no evidence, that they increase non-operating cash flow. The EC has, accordingly, failed to make a *prima facie* case that the nature of the subsidies caused them to have the claimed price effects on Boeing.

8. Considerations in evaluating whether the effect of alleged subsidies is significant price suppression.

- a. *To establish the existence of price suppression, the complaining party must demonstrate that prices for the product as a whole are lower than one would expect them to be.*

874. The EC correctly looks to past panels’ statements to the effect that price suppression is “the situation where ‘prices’ . . . either are prevented or inhibited from rising (i.e. they do not

increase when they otherwise would have) or they do actually increase, but the increase is less than it otherwise would have been.”¹⁰⁶⁶ However, it fails to note other guidance on *how* to perform this analysis.

875. As a threshold matter, the *Korea – Commercial Vessels* panel cautioned that:

the *existence* of lower than expected price increases, or of price reductions, would have to be established as a matter of fact, as one necessary condition for proving a claim of serious prejudice based on price suppression or price depression caused by subsidies. We emphasize here, however, that trends in prices would not themselves constitute price suppression or price depression. . . .”¹⁰⁶⁷

Thus, data about prices do not by themselves meet a complaining party’s burden of proof to establish price suppression. Rather, that party must go further to explain *why* the data demonstrate that prices are lower than one would expect them to be.

876. The *Korea – Commercial Vessels* panel specified that product pricing comparisons are not an appropriate means to meet this burden:

{G}iven that the relevant text is that “the effect of the subsidy is {...} significant price suppression {or} price depression”, the basic analytical question would be how to demonstrate such a causal relationship between the subsidy or subsidies in question, on the one hand, and movements in the prices of the product of concern to the complaining Member in the relevant market, on the other hand. In our view, this means that a main focus of the analysis would be levels and trends in the price for the product in question, as a whole, in the relevant market (i.e., “the same market”), as a whole, and the various reasons behind them. In terms of the present dispute, this implies that we are not required to base our assessment of the EC’s claim of price suppression/price depression on a product-by-product comparison of price levels and trends for identified subsidized Korean products and corresponding like products of EC shipyards.¹⁰⁶⁸

¹⁰⁶⁶ ECFWS, para. 1087, quoting *US – Upland Cotton (Panel)*, para. 7.1277, accord *Korea – Commercial Vessels*, para. 7.533 (“{B}oth parties use the term ‘price suppression’ to refer to the situation where prices have not increased when, or have increased less than, they otherwise would have.”).

¹⁰⁶⁷ *Korea – Commercial Vessels*, para. 7.534 (emphasis in original).

¹⁰⁶⁸ *Korea – Commercial Vessels*, para. 7.557.

Similarly, a transaction-by-transaction analysis of prices would not be relevant, except as it collectively established the price of the “product as a whole.”

- b. *Given the product definitions advanced by the EC, it is not possible to reach meaningful conclusions about price suppression with regard to individual third country markets.*

877. The United States agrees with the EC observation that the market for large civil aircraft is a global market.¹⁰⁶⁹ We also accept the premise that this market may encompass smaller markets on a regional or even a country level in limited situations. However, the EC has provided the panel with no evidence to support its claim that there are separate “country markets” for the A320, A330, or A340.

878. The EC begins its analysis by noting the definition of a “market” developed by the *Cotton* panel:

“a place ... with a demand for a commodity or service”; “a geographical area of demand for commodities or services”; “*the area of economic activity in which buyers and sellers come together and the forces of supply and demand affect prices.*”¹⁰⁷⁰

The Appellate Body, in its analysis, focused on the italicized definition.¹⁰⁷¹ However, the EC disregards the conclusion that the panel drew from its understanding of the ordinary meaning of “market”:

It could, for example, be a local, regional, national, continental, or, even, global, geographical area, provided that the conditions of competition for sales of the product in question provides an appropriate foundation for a finding that a “market” exists within that area. The degree to which a market is limited by geography will depend on the product itself and its ability to be traded across distances. If barriers exist (such as distance), the interaction between buyers and sellers which allows one price to affect another may not be apparent.¹⁰⁷²

As should be obvious, producers may easily trade large civil aircraft across large distances. Barriers between buyers and sellers are low. In fact, the United States and EC apparently agree

¹⁰⁶⁹ ECFWS, para. 1186.

¹⁰⁷⁰ ECFWS, para. 1084, quoting *US – Cotton Subsidies (Panel)*, para. 7.1236 (emphasis added).

¹⁰⁷¹ *US – Cotton Subsidies (AB)*, paras. 404, 408.

¹⁰⁷² *US – Cotton Subsidies (Panel)*, para. 7.1236. The Appellate Body quoted the final sentence of this paragraph with approval. *US – Cotton Subsidies (AB)*, para. 408.

that prices for a sale in one country routinely affect prices for subsequent sales in other countries. Thus, a party asserting the existence of a country market for large civil aircraft would have to provide an explanation as to why these factors did not preclude the existence of discrete smaller markets.

879. The EC does not come close to demonstrating that any of its multitude of proposed country markets exists. Its argument in this regard consists of a single paragraph, which does not provide any discussion of conditions of competition within the proposed markets. It makes only three points, all of them irrelevant:

- (1) “LCA sales campaigns take place within individual countries.”
- (2) “Airline and leasing company customers have identities associated with individual countries.”
- (3) “{S}ince 2000, Airbus received orders from customers in 75 different countries, and Boeing received orders from customers in 70 different countries. Airline order and delivery data can also be easily broken down by country.”¹⁰⁷³

880. The flaw with the EC’s first point is obvious – all transactions, and not just those for LCA, take place within individual countries. Many even take place in individual cities, or even buildings. That does not make those locations separate “markets” for purposes of Article 6.3(c). Moreover, as the Appellate Body observed in *US – Upland Cotton*, “two products may be ‘in the same market’ even if they are not necessarily sold at the same time and in the same place or country.”¹⁰⁷⁴ Thus, the fact that a LCA transaction takes place in a country does not make that country a “market.”

881. The flaw with the EC’s second point is equally obvious. A customer’s “association with” a particular place indicates nothing about the conditions of competition that might define a market. In fact, a customer may be “associated with” a place for historic or marketing reasons, and actually compete in a far large market.¹⁰⁷⁵

882. Finally, the fact that Airbus and Boeing received orders from many countries and can present them statistically on a country-by-country basis does not indicate the existence of a “market.” It merely demonstrates one way to present statistics. In fact, without some further information it suggests the opposite – that the global reach of the two major large civil aircraft producers means that there is a global market.

¹⁰⁷³ ECFWS, para. 1191.

¹⁰⁷⁴ *US – Upland Cotton (AB)*, para. 408.

¹⁰⁷⁵ For example, Lufthansa is associated with Germany, but flies throughout the world. The U.S. airline Alaska Air is associated with Alaska, but serves locations throughout the West Coast of the United States.

883. As an additional concern, the Panel should note that most of the so-called “country markets” that the EC addresses had one or two transactions consisting of a small number of airplanes. We have serious doubts about whether it is possible to characterize such a limited level of economic activity as a “market.” In particular, the definition endorsed by the Appellate Body addresses a “market” in terms of “economic activity in which buyers and sellers come together,” suggesting at least an expectation of more than one buyer – an expectation that most of the countries identified by the EC do not meet.

884. We do not mean to suggest that it is impossible to demonstrate the existence of an individual country market for large civil aircraft. However, to do so requires more than reciting economically and legally irrelevant facts about where transactions take place and the association of buyers with particular geographic regions. As the EC has not done this, it has failed to meet its burden of proof to establish that an individual country or campaign can be a separate large civil aircraft “market” for purposes of Article 6.3(c).

c. There is no such thing as a “campaign market.”

885. The EC asserts as an argument in the alternative that there are “campaign markets” because “buyers (i.e., airlines and leasing companies) and sellers (i.e., Airbus and Boeing) com{e} together to agree upon prices and terms for a commercial transaction involving the sale of LCA.”¹⁰⁷⁶ This observation about buyers and sellers coming together – the only rationale the EC puts forward for identifying each campaign as a market – holds true for almost every single transaction in the world, whether it be the purchase of a large civil aircraft in India, a used toaster at a flea market in the United States, or a box of chocolates at a shop in Geneva. As such, it reduces to a nullity the concept of a “market” as used in Article 6.3(c). Therefore, the the EC’s argument is inconsistent with the principle of effectiveness in the interpretation of treaties. In addition, all of the points we raised in the preceding section apply with even greater force to the notion that each campaign is its own market. In short, the EC has failed completely to meet its burden of proof and the panel should reject the EC’s argument.

d. For causation with regard to claims under Article 6.3(c), the EC must demonstrate that in the absence of subsidies, aircraft prices would have increased significantly, or would have increased by significantly more than was in fact the case.

886. The EC and the United States agree that a successful claim of serious prejudice requires a showing that but for the subsidies, serious prejudice would not have occurred. In the context of price suppression, to use the words of the *Korea – Commercial Vessels* panel, that means that “the question would be whether, in the absence of the subsidies, {aircraft} prices would have

¹⁰⁷⁶ ECFWS, para. 1193.

increased, or would have increased by more than was in fact the case.”¹⁰⁷⁷ As the text of Article 6.3(c) requires “significant price suppression,” a more precise explication of the standard would note that the increases need to be “significant.” Thus, a better statement of the standard would be that in the absence of the subsidies, aircraft prices would have increased *significantly* or would have increased by *significantly* more than was in fact the case. In short, as with our general discussion of “but for” causation, it prices would have increased, but not by a significant amount, the complaining party may not prevail.

887. The EC attempts to integrate the concept of significance into the causation standard by stating that “{w}hile non-subsidy factors may contribute to price movements, the key question in a price suppression claim under Article 6.3(c) is whether the price suppression that can be attributed to the subsidies is itself significant.”¹⁰⁷⁸ However, this formulation downplays the relevance of other potential causes of serious prejudice. As the panel in *Korea – Commercial Vessels* found, a panel must “take into account the effects of identified factors other than the subsidies, to determine whether such factors would attenuate any affirmative causal link that we may find, or render insignificant any price suppression or price depression effect of the subsidy.”¹⁰⁷⁹ Thus, potential “non-subsidy factors” are not a secondary concern to the “key” question of whether the complaining party has established a causal link. They are an integral part of verifying that any causal link that may appear to exist does, in fact, exist.

e. The complaining party must establish that price suppression is significant relative to the product and market under consideration.

888. The EC recognizes that the significance of price suppression must be established in “the context of the prices that have been affected.”¹⁰⁸⁰ However, it neglects to point out the consequences that panels have derived from this obvious proposition. Panels have favored a comparative analysis. As the *Korea – Commercial Vessels* panel concluded, to be significant, price suppression must be “of sufficient *magnitude* or degree, seen in the context of the particular product at issue to be able to meaningfully affect suppliers.”¹⁰⁸¹ The *US – Cotton Subsidies* panel described the analysis as follows:

We cannot believe that what may be significant in a market for upland cotton would necessarily be applicable or relevant to a market for a very different product. We consider that, for a basic and widely trade commodity, such as upland cotton, a relatively small decrease or suppression of prices could be significant

¹⁰⁷⁷ *Korea – Commercial Vessels*, para. 7.615.

¹⁰⁷⁸ ECFWS, para. 1093.

¹⁰⁷⁹ *Korea – Commercial Vessels*, para. 7.618.

¹⁰⁸⁰ ECFWS, para. 1095.

¹⁰⁸¹ *Korea – Commercial Vessels*, para. 7.571.

because, for example, profit margins may ordinarily be narrow, product homogeneity means that sales are price sensitive or because the sheer size of the market in terms of the amount of revenue involved in large volumes trade on the markets experiencing the price suppression.¹⁰⁸²

889. Thus, the analysis is relative, not absolute. The relevant question is whether price suppression is significant in the context of the industry – its size, its value, its revenue, and any other relevant conditions of competition.

f. Since producers and purchasers agree on prices at the time of order, data based on orders form the proper basis for an analysis of price suppression.

890. Article 6.3(c) requires a showing of price suppression “in the same market,” which implies a demonstration of the effect of the subsidy with respect to actual or potential price competition between the subsidized product and the like or affected product of the complaining Member in a given market.¹⁰⁸³ The price competition between large civil aircraft mostly occurs in sales campaigns that end with a decision to order aircraft from Airbus or Boeing. Moreover, the price for a purchase of large civil aircraft is generally determined at the time of that decision. Therefore, prices at the time of order provide the most appropriate basis for discerning price trends and thereby analyzing the effect of the alleged subsidy on price competition between Boeing and Airbus,

9. Considerations in evaluating whether the effect of alleged subsidies is significant lost sales

891. Article 6.3(c) provides that serious prejudice may arise where “the effect of the subsidy is . . . lost sales in the same market.” No WTO panel has addressed this question. The EC in its discussion of this standard essentially cross-references its discussions of “market” and “significant” for purposes of price suppression claims.¹⁰⁸⁴ Therefore, the flaws we noted above in Section B.8 apply equally to the approaches to “market” and “significant” that the EC suggests for lost sales. For the same reasons, the Panel should reject those suggestions.

a. A lost sale is one in which the product of the complaining party “might” have taken the sale, but did not.

892. The first issue raised with regard to this type of serious prejudice is the definition of a “lost sale.” The relevant meaning appears to be “fail to obtain (something one might have had)”

¹⁰⁸² *US – Cotton Subsidies (Panel)*, para. 7.1330

¹⁰⁸³ *US – Cotton Subsidies (AB)*, para. 408 (“It seems reasonable to conclude that two products would be in the same market if they are engaged in actual or potential competition in that market.”).

¹⁰⁸⁴ ECFWS, para. 1106.

or “{b}e deprived of (something) in a contest or game . . . be defeated in (a game, a battle, a lawsuit).”¹⁰⁸⁵ Thus, for a sale to be “lost” by a Member, there must have been some competition in which the Member’s producer “might have had” the sale. If the Member’s producer did not attempt to get the sale or did not make an offer that responded to the customer’s requirements,¹⁰⁸⁶ it cannot have expected to gain the sale and, therefore, cannot be understood to have “lost” it.

893. One possible different meaning of “to lose” is to “be worse off, esp. financially, as the result of a transaction,”¹⁰⁸⁷ or as the EC succinctly puts it, “not winning.”¹⁰⁸⁸ Under this definition, a lost sale would be any sale not filled by the merchandise of the complaining Member, which would in effect mean that every single transaction was a lost sale to at least one of the world’s producers of a product. It is unclear to what extent the EC relies on this definition. However, if every sale is a lost sale, the addition of the word “lost” loses any meaning. Therefore, the rule of effectiveness in treaty interpretation suggests that this interpretation is incorrect, as are the EC’s lost sales allegations to the extent that they relied on that definition of “lost.”

b. A lost sale is the “effect” of subsidization alleged by the EC only if, but for the alleged subsidization, Airbus would have taken the sale.

894. The EC and the United States agree that Article 6.3(c) requires a demonstration that “but for” the subsidy, serious prejudice would not have occurred. In the case of significant lost sales, this would require a showing that but for the subsidization, Airbus would not have had lost sales, or that the sales it lost would not have been significant. To frame the test in a positive manner, the EC would have to demonstrate that sales lost because of subsidization were significant.

895. The EC does not clearly state what standard it considers applicable. It states variously that it is enough to show that “subsidies played a substantial role in allowing Boeing to win” or that “subsidy-enhanced technology played an important part in the customer’s decision.”¹⁰⁸⁹ It also asserts that subsidies need not be the “only reason that a sale was lost,” and that the Panel must “weigh the importance of both subsidy and non-subsidy factors in causing lost sales.”¹⁰⁹⁰

896. None of these standards adequately captures the “but for” analysis that the EC otherwise recognizes is correct. The question is whether, in the absence of subsidies, the customer would have chosen Airbus instead of Boeing. It is not enough to assert that technology is “subsidy-

¹⁰⁸⁵ OED, p. 1632 (Exhibit US-14).

¹⁰⁸⁶ For example, if the customer sought a 150-seat civil aircraft and the producer responded with an offer to sell a two-seat jet fighter, the producer did not “lose” the sale.

¹⁰⁸⁷ OED, p. 1632 (Exhibit US-14).

¹⁰⁸⁸ ECFWS, para. 1104.

¹⁰⁸⁹ ECFWS, para. 1108.

¹⁰⁹⁰ ECFWS, paras. 1109-1110.

enhanced,” and conclude that the customer’s preference for Boeing is therefore the result of subsidies. Rather, a true “but for,” counterfactual analysis would examine whether any technologies were decisive and, if so, whether Boeing would have had those technologies in the absence of subsidies. If a technology is not related to subsidies (such as Boeing’s decision to make the 777 more fuel efficient by using only two engines), then sales lost because of that technological characteristic of the airplane are not lost by reason of subsidies. Similarly, a true “but for,” counterfactual analysis of the price effect of subsidies would examine what price Boeing would have charged in the absence of subsidies, and whether that price would have been sufficiently higher for the customer to turn to Airbus instead.

897. This analysis would certainly involve “weighing” the importance of subsidy and non-subsidy factors. Similarly, the EC can prevail even if other factors also had a negative effect on the customer’s willingness to buy from Airbus. However, if those other factors would have caused Airbus to lose the sale, that lost sale is not “the effect” of subsidies for purposes of Article 6.3(c). Thus, it is not enough to show that subsidies played a “substantial role” or an “important part” in loss of a sale. They must have been the decisive factor, without which the sale would have gone to Airbus.

c. Since the customer decides whether to buy from a particular producer at the time of order, order data are the proper basis for an analysis of price suppression.

898. The ordinary meaning of the term “sale” includes the concept of an agreement to exchange a good for money in the future as well as in the present.¹⁰⁹¹ In the large civil aircraft industry, a sale is “lost” at the time when the customer makes a definitive decision to purchase a competitor’s aircraft – that is, at the time of order. Lost sales, therefore, are properly measured at the time of orders. The EC essentially reaches the same conclusion with regard to lost sales:

Orders, as opposed to deliveries, are most relevant for assessing the impact of US subsidies to Boeing in the LCA markets. Sales are won or lost when the orders are placed. Consequently, . . . significant lost sales . . . are caused by the US subsidies at the time an LCA order is placed by an airline or a leasing company.¹⁰⁹²

¹⁰⁹¹ *New Shorter Oxford English Dictionary*, p. 2671 (sale defined as: “The action or an act of giving or agreeing to give something to a person in exchange for money . . .” (emphasis added)) (Exhibit US-14).

¹⁰⁹² ECFWS, para. 1214.

10. Considerations in evaluating whether the effect of subsidies is displacement/impedance of imports of a like product into the market of the United States or a third country member

899. Although the EC handles displacement and impedance claims with regard to third country markets and the U.S. market as subject to the same standard, in doing so it pays insufficient attention to the text of the SCM Agreement.

900. Claims of displacement and impedance with regard to third countries fall under Article 6.3(b), which provides that serious prejudice exists when “the effect of the subsidy is to displace or impede the exports of a like product of another Member from a third country market.” Paragraph 6.4 elaborates on this standard, stating that

the displacement or impeding of exports shall include any case in which . . . it has been demonstrated that there has been a change in relative shares of the market to the disadvantage of the non-subsidized like product (over an appropriately representative period sufficient to demonstrate clear trends in the development of the market for the product concerned, which in normal circumstances, shall be at least one year).

The panel in *Indonesia – Autos* stated that under this type of analysis, “the complainants arguably could make a *prima facie* case of displacement or impedance simply by demonstrating the market share of a subsidized product has increased over an appropriately representative period.”¹⁰⁹³

901. Claims of displacement and impedance with regard to the market of the Member allegedly providing the subsidies fall under Article 6.3(a), and exist when “the effect of the subsidy is to displace or impede the imports of a like product of another Member into the market of the subsidizing Member.” Article 6.4 does not apply to this analysis. Nonetheless, the panel in *Indonesia – Autos* found that market share data “may be highly relevant evidence for the analysis of such a claim. However, market share data is “no more than evidence of displacement and impedance caused by subsidization” and “does not *ipso facto* satisfy the requirements of Article 6.3(a).”¹⁰⁹⁴ Put another way, they are one factor among the several that a panel may consider in examining displacement or impedance in the market of an allegedly subsidizing Member.

902. The United States has no disagreement with the EC’s citation to *Indonesia – Autos* for definitions of displacement (“a situation where sales volume has declined”) and impedance (“a situation where sales which otherwise would have occurred were impeded”).¹⁰⁹⁵ We also find useful guidance in the observation of the *Korea – Commercial Vessels* panel that analyzing these

¹⁰⁹³ *Indonesia – Autos*, para. 14.209.

¹⁰⁹⁴ *Indonesia – Autos*, para. 14.211.

¹⁰⁹⁵ ECFWS, para. 1118, quoting *Indonesia – Autos*, para. 14.218.

concepts “involves an analysis and comparison of relative levels and trends in volume and market-share of the subsidized product and the complaining Member’s like product.”¹⁰⁹⁶ We do, however, disagree with a number of the other arguments raised by the EC.

- a. *As Article 6.3(a) and (b) address displacement or impedance by imports or exports, data showing orders of the allegedly subsidized product and like product are not relevant.*

903. In assessing claims of displacement or impedance of imports or exports under Article 6.3(a) or 6.3(b), or in measuring the volume of subsidized imports under Article 15.2, the terms “imports” and “exports” refer to actual deliveries rather than orders. The ordinary meaning of the terms “imports” and “exports” includes actual *articles* or *things* that cross international borders – that is, deliveries.¹⁰⁹⁷ Orders are, at most, contracts for future imports and exports. Thus, while orders may be relevant for an analysis of threat of displacement or impedance, as they provide information about likely future levels of imports or exports, they do not provide any information about imports and exports that have actually occurred.

904. The EC, however, insists that large civil aircraft orders are a permissible measure of “imports” and “exports” because the orders are “contractually binding” and, therefore, “virtually certain” to result in actual deliveries.¹⁰⁹⁸ This argument is flawed in two ways. First, Article 6.3(a) and (b) appear in the context of Article 6.3(c) and (d), which address “lost sales” and price suppression and depression. These terms that point clearly toward particular transactions for lost sales and price levels for price suppression and depression. Thus, the drafters knew how to instruct the interpreter to focus on orders rather than deliveries. The use in subparagraphs (a) and (b) of very particular terms that point toward a different moment in the commercial exchange, namely, the product’s physical crossing of the border, suggests that those subparagraphs do not address orders.

905. Second, the EC’s interpretation fails to account for the fact that footnote 13 to Article 5(c) already creates a future-oriented analysis in the form of threat of serious prejudice. The EC’s view that “future imports and exports” are capable of causing “*present* serious prejudice” is, therefore, redundant, and risks reducing threat of serious prejudice to inutility for displacement and impedance.

906. Therefore, the EC has failed to meet its burden of proof by framing its displacement and impedance arguments based on order data rather than delivery data. The Panel should find that the EC has not produced sufficient information to demonstrate the existence of current displacement or impedance.

¹⁰⁹⁶ ECFWS, para. 1119, quoting *Korea – Commercial Vessels*, para. 7.555.

¹⁰⁹⁷ *New Shorter Oxford English Dictionary*, p. 889 (export defined as “an article that is exported”), 1323 (import defined as “something imported or brought in”) (Exhibit US-14).

¹⁰⁹⁸ ECFWS, para. 1123.

- b. *For a displacement and impedance claim, each third country is not necessarily a separate market in and of itself.*

907. Article 6.3(a) and (b) address “market” in a different way than do Article 6.3(c) and (d). The ordinary meaning of market remains the same – “the area of economic activity in which buyers and sellers come together and the forces of supply and demand affect prices.”¹⁰⁹⁹ However, it comes with different qualifiers – “of the subsidizing Member” in Article 6.3(a) and “third country” in Article 6.3(b). Thus, the starting point is a particular political unit, unlike Article 6.3(c) and (d), which look at markets independent of political boundaries. This text does not, however, signify that the “market” of the subsidizing Member or third country must be coextensive with its political borders for purposes of these articles. For example, the “market” of a member of a customs union may be the entire territory of the customs union. (The Spanish text “al mercado de un tercer país” confirms that “third country” is intended as a possessive indicating that the market and the third country are linked, rather than as an adjective delimiting the territorial extent of the market.)

908. Article 6.4, which elaborates the analysis necessary for a claim under Article 6.3(b), supports this conclusion. It provides that a claim of displacement or impedance regarding a third country market will be successful if there is “a change in relative shares of the market to the disadvantage of the non-subsidized like product (over an appropriately representative period sufficient to demonstrate clear trends in the development of the market for the product concerned . . .).” This text indicates the expectation that the market subject to analysis under Article 6.3(b) is large enough to discern changes in relative shares that demonstrate clear trends. That is simply impossible with regard to most of the third country displacement and impedance claims brought by the EC, as they reflect only sporadic sales of discrete aircraft families, preventing any generalization regarding trends. Therefore, the EC has failed to meet its burden of proof with regard to third country displacement and impedance.

909. The U.S. market may have had a sufficient volume of deliveries to allow the drawing of conclusions regarding displacement and impedance. However, as the panel in *Indonesia – Autos* found, that analysis would be different than the one laid out in Article 6.4.¹¹⁰⁰ Our discussion of the EC’s displacement and impedance claims regarding each product segment will describe how the EC has failed in each case to meet its burden of proof with regard to these claims.

- c. *Any displacement or impedance must rise to the level of “serious” prejudice to satisfy Article 6.3(a) or (b).*

910. Unlike Article 6.3(c), Article 6.3(a) and (b) do not require that displacement or impedance be “significant.” However, the inclusion of these categories in the concept of “serious prejudice” does suggest that demonstration of a minor or insignificant displacement or impedance would not

¹⁰⁹⁹ *US – Cotton Subsidies (Panel)*, para. 7.1236.

¹¹⁰⁰ *Indonesia – Autos*, para. 14.211.

suffice. In this regard, we agree with the EC that, in the event that the Panel considers information on individual country markets to be insufficient, it may consider all third-country markets collectively.¹¹⁰¹

11. To establish the existence of a threat of serious prejudice, the complaining party must establish that the occurrence of one of the serious prejudice factors is clearly foreseen and imminent.

911. Footnote 13 to Article 5 specifies that “serious prejudice to the interests of another Member . . . includes threat of serious prejudice.” Article 6 does not elaborate further on this standard. By way of context, Article 15.7 provides that “{a} determination of threat of material injury shall be based on facts and not merely on allegation, conjecture or remote possibility. The change in circumstance which would create a situation in which the subsidy would cause injury must be clearly foreseen and imminent.”

912. The ordinary meaning of “threat” is “an indication of the approach of something unwelcome or undesirable; a person or thing regarded as a likely cause of harm.”¹¹⁰² The meaning of the analogous term, “amenazar,” in the Spanish text is also instructive: “Dar indicios de estar inminente algo malo o desagradable.”¹¹⁰³ That both definitions frame threat in terms of an “indication” of harm or something bad demonstrates that there must be evidence (an indication) pointing to the threat. In addition, the use of the plural “indicios” in the Spanish text means that there must be more than one such indication. The use of “inminente” in the Spanish text suggests that the threat cannot be remote or hypothetical. Taken together with the context provided by Article 15.7, these indicate that a threat of serious prejudice exists only where the complaining party has established the existence of a clearly foreseen change in circumstance that will lead to the imminent occurrence of one of the factors of serious prejudice.

913. The EC reaches a similar conclusion.¹¹⁰⁴ However, it goes on to suggest that the factors listed for threat of injury might be relevant to the analysis of threat of serious prejudice.¹¹⁰⁵ This is a problematic conclusion. Article 5 is quite clear that material injury and serious prejudice are different concepts. Therefore, while the meaning of “threat” in one context might inform the meaning in the other, we would not expect an analysis of threat of *serious prejudice* to use the same factors as an analysis of threat of *material injury*.

¹¹⁰¹ ECFWS, paras. 1441, 1537, and 1625.

¹¹⁰² New Shorter OED, p. 3290 (Exhibit US-14).

¹¹⁰³ Diccionario de la Lengua Española, p. 136 (Exhibit US-13).

¹¹⁰⁴ ECFWS, para. 1143.

¹¹⁰⁵ ECFWS, para. 1142.

914. The EC also notes that a “threat” of serious prejudice need not be certain.¹¹⁰⁶ This is clearly the case, as nothing that happens in the future can be certain. On the other hand, the EC concedes that the threat must have a strong factual basis and not rely on mere allegations, conjecture, or remote possibility.¹¹⁰⁷ These appear to be reasonable elements in a threat of serious prejudice analysis. However, we see no basis for the EC’s proclamation that the proper standard is that “a threat of serious prejudice exists when there is a *significant likelihood* that serious prejudice will occur in the future.”¹¹⁰⁸ In fact, this statement of the standard would disregard the requirements for multiple indicators of a threat that is imminent. Therefore, the threat analysis should not rest on an inaccurate characterization of the text, but rather on the ordinary meaning – that threat of serious prejudice it exists only if there are multiple indications that the “bad outcome” (serious prejudice) is “imminent.”

915. The EC notes that the panel in *US – Cotton Subsidies* observed that “present serious prejudice would more often be *preceded in time* by a prejudice that threatens to become serious, and serious prejudice would be the realization of a threat of serious prejudice.”¹¹⁰⁹ The EC also quotes with approval a statement from the United States during the *Indonesia – Autos* dispute that

the elements for such a case should be the same as for a serious prejudice case. The principal difference between the two types of cases is that in a serious prejudice case, all of the elements already exist, whereas in a threat of serious prejudice, all of the elements need not have come to pass.¹¹¹⁰

However, the EC misses the point of both the *Cotton* panel and the United States, namely that serious prejudice occurs because of an existing situation of no serious prejudice is likely to evolve to a state of serious prejudice. Thus, it is not enough to merely assert, as the EC does in each of its claims of threat of serious prejudice, that a continuation of current conditions short of serious prejudice will give rise to serious prejudice.¹¹¹¹ That current conditions “continue” is not enough. They must evolve, that is, they must change.

¹¹⁰⁶ ECFWS, paras. 1138-39.

¹¹⁰⁷ ECFWS, para. 1141.

¹¹⁰⁸ ECFWS, para. 1144 (emphasis added).

¹¹⁰⁹ ECFWS, para. 1134, quoting *US – Cotton Subsidies*, para. 1496.

¹¹¹⁰ ECFWS, para. 1143, quoting *Indonesia – Autos*, para. 8.450.

¹¹¹¹ ECFWS, paras. 1448-1451 (“Boeing’s 787 family LCA will receive guaranteed subsidies”, “technology effects and price effects will *continue* in the future”; “the magnitude of . . . subsidies . . . will *continue* to be large”; “conditions of competition similar to those that existed in the 2004-2006 period will continue”).

C. Alleged Subsidies to the 787 Did Not Cause Serious Prejudice to EC Interests With Regard to the A330, the A350 Original, or the A350 XWB.

916. The 787 is the product of many years of effort by Boeing to develop a mid-sized airplane capable of providing the intercontinental point-to-point service that Boeing saw as the greatest growth market for civil aviation. The subsidies alleged by the EC had nothing to do with this outcome. Boeing's work with DoD focused on military technologies that were not used on the 787, and NASA's aeronautics research was both too general and subject to rapidly declining funding. In fact, Boeing's internal funds and access to capital markets were more than sufficient to develop on its own any technology that the EC alleges to have been created with government funds. Any gap that Airbus now faces in composites technology (or any other 787 technology) exists because during this period, Airbus focused its efforts in other areas, most particularly technologies useful for very large aircraft and military transports.

917. Airbus' current offerings in this segment, the A330 and the A350 XWB, have thrived recently. Airbus received more A330 orders in 2006 than it ever had, and from 2004-2006 averaged 71 orders per year, substantially higher than the average for the 1990-2003 period. Meanwhile, only half a year after its launch, the A350 XWB has 232 orders and commitments, which is quadruple the number of orders placed for the 787 in its first year after launch.¹¹¹²

918. The subsidies alleged by the EC did not affect Boeing's prices, either. In the first place, the EC has vastly exaggerated the value of the alleged subsidies. More importantly, the EC's theory that Boeing converted any subsidies into a cash war chest that it could then use to drop prices on strategic sales and seize market share from Airbus is unfounded, unsupported by credible economic analysis, and completely at odds with reality. The various programs the EC has identified did not create a floating pool of cash for Boeing to use however it desired. The market, namely, what customers were willing to pay, determined 787 prices, and the EC has presented no evidence that customers would have accepted higher prices if the alleged subsidies had not existed.

919. To the extent that the A330, A350 Original, and A350 XWB – the aircraft the EC sees as competitive with the 787 – are experiencing difficulties, factors other than the alleged subsidization are responsible.

1. Boeing developed the 787 when and how it did because Boeing forecast that the greatest growth would be in point-to-point traffic.

920. In the late 1990s, Boeing and Airbus faced a decision. Both companies projected that the steady increase in air traffic would continue indefinitely into the future, and that existing hubs would become overcrowded. But they drew different conclusions about the consequences of this trend. Airbus concluded that airlines and their passengers would want to continue to fly between

¹¹¹² Airbus Press Release, "Renewed momentum for Airbus' leading products, and Paris Air Show with 425 firm orders" (June 22, 2007) (Exhibit US-377).

hubs, which would require bigger airplanes that could fit more passengers into limited landing slots at the major hubs.¹¹¹³ This vision led Airbus to found a “Large Aircraft Division” in 1996,¹¹¹⁴ and launch the A380 in 2000. As Airbus Chief Operating Officer-Commercial John Leahy explained by way of example, “I sure would love to have a non-stop Toulouse to Singapore . . . but the fact is, for the next 20 years it’s always going to be more economical for me to go to London, Paris or Frankfurt and hop on an A380 to go out there.”¹¹¹⁵

921. Boeing foresaw a different consequence of growing congestion at hubs – “that millions of busy people, given a choice, will prefer to fly directly to their destinations rather than endure lengthy stopovers at major hubs like Narita and Heathrow.”¹¹¹⁶ In its view, this “route fragmentation” would lead to a larger number of lower-volume routes, best served by a mid-sized extended range aircraft.¹¹¹⁷ Boeing foresaw a demand of 4,760 for this type of aircraft, and concluded that the actual demand for A380-sized aircraft was approximately 300 aircraft – 75 percent less than Airbus’ projection.¹¹¹⁸ Moreover, it was especially important for Boeing to have a new aircraft in the lower mid-size range because, as Airbus’ John Leahy said, “the {A}330-200 has already put the 767 out of business.”¹¹¹⁹ (The 767 was Boeing’s previous entry in this size range.)

¹¹¹³ “Airbus Plows Ahead with A3XX Plans,” *Aviation Week and Space Technology*, p. 25 (Jan. 27, 1997) (Exhibit US-278) (“Airbus’ market analysis is based on dominant carriers and hubs. Today, no more than 30 major airports account for 70% of 747 movements The consortium’s latest market forecast is showing a requirement for 1,380 400-seat-plus long-range aircraft”); “Boeing Bets the House,” *New York Times*, sec. 3, p. 1 (May 7, 2006) (Exhibit US-279) (“Airbus believes that airplane size is more important than frequent nonstop flights and that passengers will stick with a hub-and-spoke system. . . . That view has led it to spend \$12 billion to develop the double-deck A380.”).

¹¹¹⁴ Juergen Thomas, “Gestation of the A380,” *La Lettre: Academie Nationale de l’Air et de l’Espace*, p. 2 (No. 42, 2005) (Exhibit US-280).

¹¹¹⁵ “AF&NM interview: John Leahy, chief commercial officer, Airbus,” *Airline Fleet & Network Management* (Nov./Dec. 2005) (Exhibit US-281).

¹¹¹⁶ Boeing 2002 Annual Report, p. 5 (Exhibit US-282).

¹¹¹⁷ Leslie Wayne, “Boeing Bets the House,” *New York Times*, sec. 3, p. 1 (May 7, 2006) (“Boeing believes that passengers will want more frequent nonstop flights between major destinations – what the industry calls ‘city pairs.’ That is what led to the big bet on the Dreamliner, a midsize wide-body plane that can fly nonstop between almost any two global cities . . . at a lower cost than any other aircraft.”) (Exhibit US-279); Richard Aboulafia, “Airbus vs. Boeing Hits New Highs,” *Aviation Week & Space Technology*, p. 51 (Jan. 15, 2001) (Exhibit US-283).

¹¹¹⁸ Michael Harris, “The A380 superjumbo: The white elephant,” *The Independent on Sunday* (Nov. 22, 2006) (Exhibit US-284).

¹¹¹⁹ “AF&NM interview: John Leahy, chief commercial officer, Airbus,” *Airline Fleet & Network Management* (Nov./Dec. 2005) (Exhibit US-281).

922. Boeing initially sought to serve this demand with a new fast, extended range aircraft, which it dubbed the “Sonic Cruiser” because it would travel at just under the speed of sound.¹¹²⁰ The notion was that new technology, including extensive use of composites, would allow the aircraft to travel higher and faster, cutting travel times.¹¹²¹ The concept, announced in 2001, gained little support among airlines, many of which told Boeing they wanted an aircraft that cost less to fly, rather than one that flew faster. In line with this advice, Boeing decided instead to seek to build a super-efficient airplane that could fly at the speed of other aircraft but at a lower cost. It announced the new aircraft in 2002.¹¹²²

923. Developing a new family of large civil aircraft and bringing it to commercial production also carries an opportunity cost. It takes huge commitments of time and billions of dollars of money, to the point at which it is practically impossible for one company to have two all-new development programs at the same time.¹¹²³ Therefore, commencement of these projects meant that neither producer would be able to manage a second major development project until after completing the first.

2. *Airbus developed the A350 when and how it did because its forecasts emphasized growth in demand for very large aircraft, and once it started on the A380, the need to concentrate on that program prevented serious work on a genuinely new aircraft family.*

924. Airbus initially derided Boeing’s 787 strategy. Airbus’ John Leahy predicted that Boeing would not actually launch the 7E7 in 2004, as planned, but instead would “eventually” come out instead with “a relatively ordinary airplane similar to the 767.”¹¹²⁴ As late as July, 2004, Airbus officials insisted that their company did not need a new airplane to compete with Boeing’s 787.¹¹²⁵ However, it soon became clear that the all-new 787 was popular with airlines, and by mid-2004, Boeing had 50 firm orders from one airline, ANA.¹¹²⁶ Leahy later confessed that

¹¹²⁰ “Boeing’s Sonic Cruiser Skirts The Edge Of The Sound Barrier,” *Popular Mechanics* (Oct. 2001) (US-285).

¹¹²¹ Boeing “Sonic Cruiser,” *Flug Revue*, available at <http://www.flug-revue.rotor.com/frtypen/FRSonicC.htm> (last visited June 3, 2007) (Exhibit US-286).

¹¹²² 2002 Boeing Annual Report, p. 18 (Exhibit US-282).

¹¹²³ The last company to try was Airbus, which in the late 1980s developed that A330 and A340 in parallel. However, Airbus had the benefit of millions of dollars in Launch Aid. Even so, as we explain further in Section XV.E, the A340 was not successful.

¹¹²⁴ James Wallace, “Airbus sales chief scoffs at rival’s 7E7,” *Seattle Post-Intelligencer* (June 18, 2003) (Exhibit US-287).

¹¹²⁵ Airbus’s then- President Noel Foregard said, “there will probably be a market for the 7E7 The 7E7 is clearly a reaction to the A330 and we do not feel obliged to react to a reaction.” Graham Dunn, *Air Transport Intelligence* (July 20, 2004) (Exhibit US-288).

¹¹²⁶ Boeing – 787 Orders for January 2004 through July 2004 (Exhibit US-289). As of December, 2004,

Airbus was “caught napping.”¹¹²⁷ By September, 2004, Airbus changed its position, and announced that it would launch a new aircraft called the A350, with commercial service starting in 2010.¹¹²⁸ The company budgeted development costs for the initial version of the A350 at a modest \$2.6 to \$3.9 billion,¹¹²⁹ saving money by reusing the A330 fuselage and adding newly designed wings.¹¹³⁰ This first proposal is perhaps best described as the “A350 Initial.”

925. To understand the unfolding of the A350 saga, it is necessary to follow what else was happening at Airbus in the 2004-2006 period. Airbus was not only still working on its own revolutionary new aircraft, the A380, but it was also developing the A400M, a military transport. Airbus officials acknowledged in mid-2005 that “{w}e do have a resource shortage.”¹¹³¹ They had to announce a postponement of the first delivery of the A380, which was originally scheduled for early 2006.¹¹³² Then, in June 2006, Airbus publicly admitted what its managers had known for months – that wiring problems were making it impossible to assemble the A380.¹¹³³ Airbus’s Hamburg plant had used version 4 of the CATIA design software, while the Toulouse plant used version 5. Consequently, three-dimensional designs produced on Toulouse’s more advanced system had to be laboriously converted to the two-dimensional format used in Hamburg, which

¹¹²⁶(...continued)

Boeing had 56 orders from three airlines.

¹¹²⁷ Victoria Moores, “Airbus was ‘caught napping’ by 787: Leahy,” *Flight International* (Apr. 27, 2007) (Exhibit US-290).

¹¹²⁸ “Airbus CEO: 7E7 rival would have more seats,” *Seattle Times* (Sept. 28, 2004) (Exhibit US-291).

¹¹²⁹ Laurent Frost, “Airbus plans new rival to Boeing’s ‘Dreamliner’,” *Associated Press State & Local Wire* (Nov. 23, 2004) (Exhibit US-292); Jean-Michel Belot and Tim Hephher, “Airbus A350 Unleashes New War with Boeing,” *Reuters* (Dec. 10, 2004) (Exhibit US-293).

¹¹³⁰ “A350: Airbus’s counter-attack,” *Flight International* (Jan. 25, 2005) (Exhibit US-294):

Given that the aircraft is a derivative rather than an all-new design, Airbus is keen to emphasize the commonality with the existing aircraft, and the A350 will be certificated as a variant of the A330 under the existing type certificate. . . . Airbus vice-president marketing Colin Stuart says . . . ‘we have still achieved a slight improvement over the existing aircraft.’ The wing is dimensionally similar to that of the A330, but is almost entirely composite. . . . The wing ribs remain metallic. The centre and outer wingboxes are fabricated from carbonfibre.”)

Ameet Sachdev, “Airbus denies trouble in sky competition,” *Chicago Tribune*, p. C1 (Apr. 8, 2006) (Exhibit US-295).

¹¹³¹ Robert Wall, “A350 Faces Busy Time Until Industrial Launch,” *Aviation Week & Space Technology* (June 20, 2005) (Exhibit US-296). The U.S. Campaign Annex, para. 28. contains information relevant to this point.

¹¹³² Noel Forgeard and the A380, Commercial Aviation Report, p. 10 (Jan. 1 & 15, 2007) (Exhibit US-297).

¹¹³³ Noel Forgeard and the A380, Commercial Aviation Report, p. 10 (Jan. 1 & 15, 2007) (Exhibit US-297).

made them difficult to read and deleted internal notes. As a result, when fuselage segments produced in Hamburg arrived in Toulouse, the wires did not fit together.¹¹³⁴

926. This problem was much more serious than it may seem to the layman. An A380 has 530 kilometers of wire, with 100,000 cable sections and 40,300 connectors.¹¹³⁵ Making the wires fit is accordingly a monstrous job. Production of finished A380s ceased as Airbus flew engineers into Toulouse and tried to rewire the aircraft – an effort that further delayed delivery by almost two years.¹¹³⁶ Customers were furious, and many of them demanded that Airbus pay them cash penalties.¹¹³⁷ Estimates vary as to how much these difficulties will affect Airbus profits, with one source recently putting the loss at \$6 billion in lower profits.¹¹³⁸ The company’s struggle to deal with the problem led to repeated turnover in corporate leadership, with Airbus cycling through three different CEOs in 2006.

927. Given these resource constraints, it is no surprise that Airbus conceived of the A350 Initial as a low-cost elaboration upon the existing A330 fuselage.¹¹³⁹ However, customers quickly let Airbus know that they wanted more. As a result, Airbus made several revisions to the A350 Initial design to lessen reliance on A330 components, culminating in the May 2005 announcement of a new version of the A350, which was supposed to be “90 percent new.” (This is apparently what the EC in its first written submission describes as the “A350 Original,” even though it was quite different from the A350 Initial as originally announced in 2004.) The new approach also had a new (and higher) development budget of \$5.5 billion.¹¹⁴⁰ Airbus was eventually able to obtain 182 orders for the A350 Original.¹¹⁴¹ However, important customers remained critical in their assessments, one saying that the A350 was a “silver medal” that would leave the “gold medal” 787 with 75 percent of sales.¹¹⁴² This criticism led Airbus to announce yet another reworking of the A350 concept in July 2006, this time as the “A350 XWB,” an entirely

¹¹³⁴ “Wayward Airbus,” *BusinessWeek* (Oct. 23, 2006) (Exhibit US-299); Sebastian Steinke, “A380 cable problems threaten Airbus,” *Flug Revue* (Dec. 2006) (Exhibit US-298).

¹¹³⁵ Sebastian Steinke, “A380 cable problems threaten Airbus,” *Flug Revue* (Dec. 2006) (Exhibit US-297).

¹¹³⁶ Noel Forgeard and the A380, *Commercial Aviation Report*, p. 10 (Jan. 1 & 15, 2007) (Exhibit US-297); EADS Annual Review 2006, p. 35 (Exhibit US-369).

¹¹³⁷ “AF&NM interview: John Leahy, chief commercial officer, Airbus,” *Airline Fleet & Network Management*, p. 64 (Nov./Dec. 2005) (Exhibit US-281).

¹¹³⁸ “Wayward Airbus,” *BusinessWeek* (Oct. 23, 2006) (Exhibit US-299); Sebastian Steinke, “A380 cable problems threaten Airbus,” *Flug Revue* (Dec. 2006) (Exhibit US-298).

¹¹³⁹ Max Kingsley Jones, “A350: Airbus’s counter-attack,” *Flight International* (Jan. 25, 2005) (Exhibit US-294); John Newhouse, “Airbus’s Superjumbo Ego,” *Newsweek* (Oct. 23, 2006) (Exhibit US-300).

¹¹⁴⁰ Robert Wall, Michael Mecham, and Andy Nativi, “Airbus Fights Back,” *Aviation Week & Space Technology*, p. 26 (May 23, 2005) (Exhibit US-301).

¹¹⁴¹ “Airbus goes for extra width,” *Flight International* (July 25, 2006) (Exhibit US-302).

¹¹⁴² Ameet Sachdev, “Airbus denies trouble in sky competition,” *Chicago Tribune* (Apr. 8, 2006) (Exhibit US-295).

new aircraft with a composite fuselage. The changes increased the total cost of developing the A350 XWB to at least \$10 billion, and delayed entry into commercial service until 2013.¹¹⁴³

928. As this brief history shows, Airbus's strategy and resource constraints have driven scheduling of and features on the A350 throughout the development process. Airbus did not begin the research necessary to bring to market a low weight, fuel efficient aircraft in 2000, as Boeing did, because Airbus thought demand for such an aircraft did not justify the effort, and did not have enough resources to do the research while it was working on the A380. When Airbus decided that the task was, in fact, worthwhile, it did not initially propose an all-new aircraft with extensive use of composites because even with large amounts of Launch Aid, it did not have the resources to develop such an aircraft while developing the A380, dealing with its cost overruns, and developing the A400M.¹¹⁴⁴ Now that the process for bringing the A380 to commercial use is nearly finished and resources have become more readily available, it can consider a different approach and, consequently, could plan the A350 XWB.

3. *There is no coincidence in time between the alleged subsidies and the alleged serious prejudice to EC interests.*

929. With regard to the 787, the EC alleges only that serious prejudice occurred primarily in the 2005 to 2006 period, and is likely to occur in the future as threat of serious prejudice. However, the government programs that the EC considers relevant to the 787 have been decreasing since 1998.

930. Alleged DoD subsidies, such as RDT&E contracts and IR&D, did not benefit the 787, as Boeing used *no* technology derived from its contracts with DoD on that aircraft. The EC concedes that FSC/ETI benefits did not benefit the 787. As these programs conferred no benefit to the 787, under the EC's theory they cannot have caused serious prejudice with regard to the A330, A350 Original, or A350 XWB. Therefore, the only remaining alleged subsidies of any appreciable size of which the EC complains are the various State of Washington programs, the City of Wichita IRBs, NASA research programs, and the assignment of intellectual property rights.¹¹⁴⁵ Payments pursuant to NASA contracts, which account for the bulk of these programs, declined precipitously after the HSR Program ended in 1999. The decline began before Boeing commenced work on the 787, and the continuation of that decline after the EC alleges that serious prejudice began suggest that there is no causal relationship between the alleged subsidies and the alleged serious prejudice.

¹¹⁴³ "Airbus goes for extra width," *Flight International*" (July 25, 2006) (Exhibit US-302).

¹¹⁴⁴ Paragraph 28 of the U.S. Campaign Annex provides additional information on this point.

¹¹⁴⁵ Exhibit EC-17, p. 4. These are the only programs with values allegedly higher than \$20 million per year.

4. The alleged subsidies did not have the knowledge effects alleged by the EC.

931. The materials and basic manufacturing techniques employed by Boeing on the 787 are commercially available. Airbus both has used them in the past and is using them now. Global suppliers provide significant components of the 787 and, in many cases, currently supply those or other components to Airbus.¹¹⁴⁶ In addition, any knowledge acquired by Boeing through its R&D contracts with NASA (which in any event, do not create a subsidy where none exists) has been widely disseminated throughout the aerospace industry, and forms part of a general, globalized pool of industry knowledge. Research funded by DoD, on the other hand, is typically irrelevant to the performance requirements of large civil aircraft, and technologies and products derived from that research are generally barred from incorporation into exported commercial products unless they are readily available in the civil sector. The real innovation of the 787 lies in the design efficiencies built and developed by Boeing and its suppliers using their own funds. They achieved the results they did, when they did, because they started ahead of Airbus.

932. The EC has argued that “but for” the alleged subsidies, Boeing could not have designed, marketed, developed and launched the 787 when it did. In particular the EC alleges that DoD and NASA R&D “accelerated the readiness” of key technologies and gave Boeing a “jump start” in applying them to the design of the 787.¹¹⁴⁷ However, as Michael Bair, Vice President and General Manager of the 787 Program, notes:

The 787 is built from the global commercial aviation technology base. Innovations are those made by Boeing and its commercial suppliers, without U.S. Government funding. Why are we ahead of Airbus in bringing to market a predominantly all-composite aircraft? Because we chose to build one.¹¹⁴⁸

Challenged research conducted under NASA and DoD R&D contracts is either technologically irrelevant to the commercial aircraft that Boeing produces, too early stage, basic and widely disseminated to have a commercial impact, or barred from incorporation onto commercial products. As such, this research did not “accelerate” the company’s ability or decision to build the 787. Instead, Boeing made the decision to design, develop and launch the 787 at great internal cost to the company based on its reading of the large civil aircraft market and the realities of increasing fuel costs. This required both an enormous monetary investment and an innovative strategy aimed at pushing aerospace technology forward.

¹¹⁴⁶ Common Boeing-Airbus suppliers include Alenia (Airbus’ largest non-Airbus European supplier for the A380), Goodrich, Vought, C&D Aerospace, GKN, Spirit (Airbus’s largest airframe supplier and key A380 partner), Fischer, Fuji, Latecoere, Messier-Dowty, Fokker, Saab, CAC, HAC and Hawker de Havilland.

¹¹⁴⁷ ECFWS, para. 1335.

¹¹⁴⁸ Affidavit of Michael Bair, para. 75 (Exhibit US-7).

933. The EC has attempted to prove its “but for” argument by pointing out that Boeing had access to U.S. Government-funded R&D of technologies similar to those used on the 787. Its argument has numerous flaws. It distorts the reality of working within the confines of the U.S. export control regime. It fails to acknowledge the critical role of supplier technologies in building the 787. It even attempts to rewrite history with respect to the state of composites knowledge at the time the 787 was launched. Therefore, the EC has failed to meet its burden of proving that, absent the alleged subsidies, Boeing would have developed the 787 later than it actually did.

a. *Key 787 technologies are generally available in the commercial marketplace.*

934. The centerpiece of the EC’s argument concerning “technology effects” relates to composites technology.¹¹⁴⁹ The EC argues that “a major obstacle” to building a composite aircraft, such as the 787, was the lack of widespread knowledge of composite technology.¹¹⁵⁰ The EC then argues that without the experience in composites that Boeing gained while working under DoD and NASA contracts, the company could not and would not have been able to build the 787 at the time it did.¹¹⁵¹ The EC ignores the fact that composites were widely used throughout the aeronautics and other industries well before the 787 launch.¹¹⁵²

935. Composite technology has been widely used in commercial aircraft for many years, and increasing demand in aerospace and many other sectors for composites has pushed material costs down. Airbus itself pioneered use of composites on LCA – first in 1972 by incorporating composites into tailfin leading edges, again in 1983 with the composite rudder of the A300 and A310, and later with the vertical tail fin of the A310.¹¹⁵³ Airbus has been a “composite leader” throughout its history, and has used composite technology on virtually every aircraft produced since the 1980s.¹¹⁵⁴ The A380 uses “more composites than any previous commercial aircraft,”

¹¹⁴⁹ ECFWS, para. 1351.

¹¹⁵⁰ ECFWS, Annex C, para. 23.

¹¹⁵¹ ECFWS, Annex C, n. 30 and para. 25 (arguing that the alleged subsidies “helped Boeing bridge the wide gap between the benefits and costs of using composite materials on primary aircraft structures.”)

¹¹⁵² Affidavit of Michael Bair, para. 14 (Exhibit US-7) (detailing the exponential increase in the volume of composites used by aerospace and other industries and demonstrating, for instance, a 100% increase in composite usage throughout industry over the course of 10 years. Also noting that the cost of composites had decreased significantly prior to the 787 launch.)

¹¹⁵³ “Composite Leadership,” *The Airbus Way*, p. 8 (Exhibit US-303); “The origins of Airbus’ industry-leading position,” Airbus, (Exhibit US-304); Adam Quilter, ESDU International “Composites in Aerospace Applications,” p. 2 (Exhibit US-305).

¹¹⁵⁴ “Composite Leadership,” *The Airbus Way*, (Exhibit US-303) (noting that Airbus also pioneered usage of composites on the horizontal tailplane and flaps of the A320, and the rear pressure bulkhead and keel beam of the A340, an industry first).

including the innovative composite center wing box.¹¹⁵⁵ Composites were therefore certainly a well-known, and widely used, technology at the time of the 787 launch. Furthermore, there was no question that a composite commercial aircraft was possible; in 1995, Raytheon launched a composite business jet.¹¹⁵⁶

936. In terms of composite knowledge and application, therefore, Airbus was similarly situated, if not further ahead, than Boeing at the time of the 787 launch.¹¹⁵⁷ This is evidenced by the fact that once Airbus decided to compete head-on with the 787 in the last half of 2004, it was able to re-design the A350 and announce the composite A350XWB-800 within only 18 months.¹¹⁵⁸ Surely Airbus would not have been able to take such a step if the technology “gap” alleged by the EC in fact existed. Instead, as already noted, both Airbus and Boeing’s decisions concerning what kind of new airplane to build were not driven by any knowledge imbalance between the two companies, but instead by different evaluations of what would sell best.¹¹⁵⁹ The fact is that Boeing began contemplating a composite mid-range aircraft in 2000, whereas Airbus pursued a different choice based on a different analysis of the market,¹¹⁶⁰ leading it to choose the A380. If Airbus mis-judged the market, it has only itself to blame.

937. From a knowledge and experience perspective, therefore, there is no evidence that some technology gap precluded Airbus from making the same decision Boeing did, when it did, to launch a composite aircraft. This point is underscored by how Boeing developed and is manufacturing the 787, namely, using commercially available materials and technologies purchased by Boeing from its global supply network. Importantly, these include the fiber placement machines, the contour and flat tape laying machines, the composite molds, and the

¹¹⁵⁵ “Composite Leadership,” *The Airbus Way*, p. 8 (Exhibit US-303).

¹¹⁵⁶ Graham Warwick, “Raytheon’s First,” *Flight International*, Reed Business Publishing (October 4, 1995) (Exhibit US-306).

¹¹⁵⁷ Affidavit of Michael Bair, para. 51 (Exhibit US-7).

¹¹⁵⁸ ECFWS, para. 1338 (claiming that this competitor airplane is “a new-generation LCA that exhibits comparable or even better performance than Boeing’s 787 family LCA.”) This aircraft has been significantly modified by Airbus in response to demands from its customers, some of whom have noted that “Airbus lost a year and a half of development time by not listening earlier to its key customers.” Aude Lagorce, “Qatar Airways CEO in Talks with Boeing for More Aircraft,” *The Wall Street Journal Online*, June 20, 2007 (Exhibit US-307). Interestingly, Airbus initially did not consider the 787 to be anything more than a “PR threat.” James Wallace, “Airbus sales chief scoffs at rival’s 7E7: Boeing’s hype about super efficient plane described as ‘guerilla marketing,’” *Seattle Post-Intelligencer*, June 18, 2003, (Exhibit US-287) (quoting Airbus’ John Leahy as stating that “What you will end up seeing is a relatively ordinary airplane similar to the 767 that will try and match the A330-200. They may get close, but *it will be a plain vanilla competitor* to what is a tough standard to topple—the A330-200”) (emphasis added).

¹¹⁵⁹ “Boeing Commits to Building 7E7 After ANA Order,” *China Daily*, April 27, 2004 (Exhibit US-309) (quoting Patrick Carroll, president of Airbus Japan as saying that with regards to the 7E7 “we like to see that Boeing is making progress towards recovery . . . till we firmly believe the A380 is the solution.”)

¹¹⁶⁰ Launching a commercial aircraft is risky, as both companies know well. In the early 2000’s Boeing decided to take a “do or die” gamble on a composite 787, even after initial reluctance on the part of some Boeing engineers. “Boeing bets big on a plastic plane,” *Chicago Tribune* (Jan. 12, 2005) (Exhibit US-310).

composite material itself.¹¹⁶¹ Suppliers are also providing some of the other key technologies the EC alleges Boeing learned from U.S. Government R&D, including: the anti-ice systems, the electro-mechanical actuators, the electrically actuated brakes, the “no-bleed” engines, the 5,000 psi hydraulic actuation systems, the open systems architecture, the computer-aided design and manufacturing tools, the engine nacelle chevrons, the joint-less inlet liners, the landing gear, and the on-board health management system.¹¹⁶² As already mentioned, Airbus has relationships with most of the suppliers of these technologies, and certainly could (and has) purchased some of these same systems for the A380, and presumably will for the A350 XWB as well. For instance, Airbus is sourcing its high lift systems for the A330, A340 and A380 from Smiths/GE, Boeing’s 787 supplier for the same system.¹¹⁶³ Airbus had the same opportunity as Boeing to purchase electric brakes from Goodrich and Messier-Bugatti and to purchase the same computer-aided life cycle management tools use to design the 787 from Dassault Systèmes, a choice that might have avoided the design tool related delay of the A380.¹¹⁶⁴ There is no question that these technologies are generally available.¹¹⁶⁵

938. In fact, the key strategic technology choice made by Boeing for the 787, was to work closely with suppliers to leverage both their technology and know-how.¹¹⁶⁶ This is what has expanded Boeing’s technology base, and not the U.S. government.¹¹⁶⁷

b. Boeing and its supplier-partners’ innovation – and not NASA R&D – “enabled” the 787.

939. While NASA’s research surely provided interesting results for both Boeing and the rest of the global aerospace industry, the real 787 story began *after* Boeing’s NASA R&D work, and

¹¹⁶¹ Affidavit of Michael Bair, para 49 (Exhibit US-7). The 787’s epoxy-infused composite material is supplied by Toray, the fiber placement machines and contour and flat tape laying machines are made by Ingersoll Milling Machines and Cincinnati Machines, the composite molds were developed by Boeing in partnership with Janicki Industries and Northsails, and the airframe structures are supplied by Boeing’s partners Alenia, Vought, Kawasaki, Spirit, Latecoere, Saab, Mitsubishi, Fuji, Kawasaki, and Hawker de Havilland.

¹¹⁶² These systems and technologies are being provided by Hamilton Sundstrand, GKN Aerospace, Smiths and Moog, Goodrich and Messier-Bugatti, Parker Hannifin, Dassault Systemes, General Electric, Messier-Dowty and Honeywell.

¹¹⁶³ High Lift Actuation, GE Aviation, available at www.smiths-aerospace.com (last visited July 3, 2007) (Exhibit US-31F).

¹¹⁶⁴ Affidavit of Michael Bair, paras. 58, 66 (Exhibit US-7).

¹¹⁶⁵ Indeed, even in cases where Airbus does not share a common supplier with Boeing, Airbus has procured equivalent technology systems from other suppliers, such as the 5,000 psi hydraulic actuation systems and the open-systems architecture supplied to it by Eaton. A380 Supplier List, Airframer: The Journal of Aircraft Manufacturing (Exhibit US-312); Affidavit of Michael Bair, paras. 62, 65 (Exhibit US-7).

¹¹⁶⁶ Affidavit of Michael Bair, paras. 43-44 (Exhibit US-7).

¹¹⁶⁷ “Boeing’s Global Strategy Takes Off”, *Business Week Online* (June 30, 2006) (Exhibit US-313) (noting that “Boeing also needed top engineering talent from around the world to help it pull off what will be the design and production of the first plastic commercial jetliner.”).

revolved primarily around both the company's use of supplier knowledge and its own massive investment in developing cost-effective and efficient methods for producing the aircraft. After making a decision that what the market needed was not a very large hub-to-hub aircraft, but a medium-sized more efficient point-to-point aircraft, Boeing increased internal funding and looked to internal and external knowledge to design a new plane. Boeing's annual R&D expenditures soared from \$574 million in 2000 to \$2.39 billion in 2006.¹¹⁶⁸ Likewise, while composite manufacturing technologies were widespread in the aerospace industry, they were characterized by slow application rates. Despite what the EC may allege, in 2004 when the 787 was launched the state of the art with respect to composite manufacturing technologies stood at a pound-per-hour rate that was not fast enough for commercial production of large-scale aircraft.¹¹⁶⁹ There were no NASA or DoD programs to elevate this figure – Boeing and its suppliers had to solve the problem by themselves.

940. Boeing and its suppliers accordingly proceeded to change the state of the art by creating and designing their own technology solutions. A critical turning point involved the application of composite strips to a spinning barrel using multiple robotic tape-laying heads. This technology, developed by Boeing and key suppliers, was both fast and scalable (meaning it could easily be applied to large parts required for the 787), and provided the possibility of creating a single piece of composite for each fuselage barrel.¹¹⁷⁰ Apart from resolving the issue of making large, single fuselage barrels, this adapted technique allowed Boeing to raise the level of production efficiency to a much higher pounds-per-hour rate by 2007 (approximately 13 times faster than industry capability in 2004).¹¹⁷¹

941. Boeing adopted similar problem-solving and innovation strategies for the other 787 technologies challenged by the EC.

- The decision to use a “more-electric” architecture for the 787 became possible because of a critical Boeing design innovation. By using larger starter generators than were possible to use in the past, Boeing and its suppliers have designed non-pneumatic systems aimed at fuel and energy efficiency that power the plane's de-icing system, air conditioning, and electronically actuated brakes.¹¹⁷² These generators are supplied by Hamilton Sundstrand, which also provides the air

¹¹⁶⁸ Affidavit of Michael Bair, para. 42 (Exhibit US-7); R&D expenditures for BCA and IDS (Exhibit US-373).

¹¹⁶⁹ Affidavit of Michael Bair, para. 53 and included table (Exhibit US-7).

¹¹⁷⁰ “Boeing bets big on a plastic plane,” *Chicago Tribune*, p. 7 (Jan. 12, 2005) (Exhibit US-310). Affidavit of Michael Bair, para. 49 (Exhibit US-7).

¹¹⁷¹ Affidavit of Michael Bair, para. 53 and included table (Exhibit US-7).

¹¹⁷² Joseph Ogando, “Boeing's ‘More Electric’ 787 Dreamliner Spurs Engine Evolution,” *Design News* (June 4, 2007) (Exhibit US-314) (observing that “Boeing's ability to pack so much power on the plane . . . comes down to density improvements taking place in general industry”). Affidavit of Michael Bair, para. 53 and included table (Exhibit US-7).

conditioning system on the A380. The “more electric” architecture also allowed Boeing to take advantage of another key supplier innovation—the “no bleed” engine.¹¹⁷³ This new technology accounts for at least one-third of increased operating cost efficiencies on the plane, and is available to Airbus through engine makers GE and Rolls Royce.¹¹⁷⁴ In fact, Airbus will benefit from supplier engine experience on the 787, as it has recently selected Rolls Royce to provide the Trent XWB engine series for the A350 XWB.¹¹⁷⁵

- The aerodynamic design and structure of the 787 is a product of Boeing and supplier innovation. The challenges of managing a global aircraft team forced Boeing to creatively adapt computer design tools to create its 100+ partner and supplier collaborative design network.¹¹⁷⁶ These tools are fundamentally changing the way in which Boeing manufactures its aircraft, and have proven essential to ensuring that the entire 787 team uses the same systems to design, build and test every aspect of the plane.¹¹⁷⁷ As Airbus knows well, these tools are all available commercially through Dassault Systemes.¹¹⁷⁸ Likewise, the challenged high-lift

¹¹⁷³ Affidavit of Michael Bair, para. 58 (Exhibit US-7). The EC has made much of the “no bleed” engines in its submission. Ironically, Airbus itself acknowledged in 2005 that it was unconvinced as to the merits of this system. Bill Sweetman, “Battle of the Middleweights,” *Air Transport World*, p. 26 (Mar. 2005) (Exhibit US-315).

¹¹⁷⁴ Affidavit of Michael Bair, para. 58 (Exhibit US-7).

¹¹⁷⁵ “Fully Optimised for the Airbus A350 XWB family,” Rolls-Royce.com (Exhibit US-316) (boasting that the Trent XWB will set new standards of reliability through the “combined experience from the engine development test programmes of the Trent 900, *Trent 1000*, and the Trent XWB”) (emphasis added). The Trent 1000 series is what Rolls Royce is providing for the 787.

¹¹⁷⁶ Affidavit of Michael Bair, para. 66 (Exhibit US-7). Beth Stackpole, “Boeing’s Brave New World of Product Development; The Global Collaboration Environment lets 787 partners design, build and test components and manufacturing processes for the aircraft digitally, prior to physical production,” *Design News* (June 4, 2007) (Exhibit US-317) (explaining that “Boeing’s dress rehearsal for the brave new world of virtual development was the 777 program With the 787 Dreamliner program, it leveraged a common digital environment to help a dispersed global design team more effectively collaborate and leverage a single 3D product definition throughout all phases of the 787’s lifecycle.”)

¹¹⁷⁷ Edward Cone, “Boeing: New Jet, New Way of Doing Business,” *EWeek.com*, April 25, 2007 (Exhibit US-318) (explaining that previously, global manufacturing strategies involved global partners working from a common blueprint. Boeing has pushed the technological envelope by selecting online computer models that allow parts to be designed and “assembled” by global partners in real-time.)

¹¹⁷⁸ Airbus has chosen Dassault Systemes’ DELMIA and CATIA V5 for the A320, A330, A340, A380 and A350XWB. “Airbus Speeds Innovation and Time-to-Market with DELMIA Design Manufacturing Technology from IBM and Dassault Systemes,” Dassault Systemes, March 21, 2006 (Exhibit US-319). “Boeing deploys Dassault Systemes update to digital tools for 787 Global Team,” M2 Presswire, June 13, 2005 (Exhibit US-320) (citing Dassault Systemes CEO as stating “Boeing’s continued trust in Dassault Systemes’ solutions for the remarkable 787 Dreamliner demonstrates the robustness and global capabilities of V5 with CATIA, ENOVIA and DELMIA . . . and demonstrates the power of the GCE and the value that V5 PLM can quickly bring to any company.”). Beth Stackpole, “Boeing’s Brave New World of Product Development; The Global Collaboration Environment lets 787 partners design, build and test components and manufacturing processes for the aircraft

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systems used to hydraulically power the flap and slat systems, as well as the 787 spoilers, are not only available from common Airbus-Boeing supplier Smiths/GE, but are being supplied directly to Airbus for use on the A330, A340 and A380.¹¹⁷⁹

- The “open systems architecture” of the 787 is based on Boeing’s decision to rely on supplier technical expertise in identifying the very best systems for the aircraft. The common core of this system, an integrated common data network that runs the aircraft’s systems, is also provided by Smiths/GE, in partnership with Rockwell Collins and Honeywell. The fiber optic Ethernet system used to run the 787’s central processing is not only available commercially, but a version of it has been designed by Rockwell Collins for use on the A380’s Integrated Modular Avionics system, a data network that relies on separate computers rather than on a central core.¹¹⁸⁰ The plug-in aspects of the system, such as the integrated standby flight display and flight control electronics are also available on the market.¹¹⁸¹
- The noise reduction technologies used on the 787 are largely the product of supplier technology. The engine nacelle chevrons selected by Boeing to dampen engine noise are available to Airbus through Smiths/GE, and were in fact first tested on an Airbus 321.¹¹⁸² The landing gear fairings used to reduce landing gear noise on the 787 are supplied by Goodrich, an A380 supplier.
- The 787 health management systems, which allow the aircraft to self-monitor and report maintenance problems, come primarily from Boeing’s own proprietary 777 technology, developed 15 years earlier and supplied by Honeywell.¹¹⁸³

942. In summary, the technologies challenged by the EC are the product of Boeing’s internal innovation and available supplier technologies. These technologies were available to both Airbus and Boeing. Boeing simply decided to apply them to a mid-sized civil aircraft while Airbus took the A380 route.

(...continued)

digitally, prior to physical production,” *Design News* (June 4, 2007) (Exhibit US-317) (noting that the 3D production definition used by Boeing is a Web-based application that allows customers to customize the interior selection of the plane).

¹¹⁷⁹ Affidavit of Michael Bair, para. 68 (Exhibit US-7).

¹¹⁸⁰ James W. Ramsey, “Integrated Modular Avionics: Less is More,” *Avionics Magazine* (Feb. 1, 2007) (Exhibit US-321).

¹¹⁸¹ Affidavit of Michael Bair, para. 64 (Exhibit US-7).

¹¹⁸² Affidavit of Michael Bair, para. 69 (Exhibit US-7).

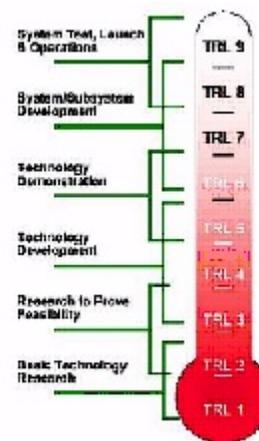
¹¹⁸³ Affidavit of Michael Bair, paras. 71-72 (Exhibit US-7).

c. *The magnitude and nature of the alleged subsidies confirm that NASA R&D did not cause serious prejudice in the form of “technology effects.”*

943. As can be seen from the above, and the detailed affidavit from Michael Bair, NASA R&D did not “enable” Boeing to proceed with the 787 when it did. The magnitude and nature of the NASA funding only serves to confirm this. From a cost perspective, NASA R&D funding does not even begin to approach the level required for large civil aircraft development and is insignificant to the costs of aircraft development. (Boeing received less than \$750 million under the challenged programs over the course of 30 years on a wide variety of research, which was generally focused on basic technologies or on topics, such as supersonic flight, that have nothing to do with large civil aircraft.¹¹⁸⁴ In contrast, Boeing has invested billions of dollars of its own money, at great risk to the company, in developing and launching the 787 and reorganizing itself to take maximum advantage of supplier expertise.¹¹⁸⁵

944. Furthermore, from a technology perspective, NASA’s R&D did not “accelerate” development of the 787. NASA R&D is primarily aimed at fundamental and basic aeronautics technology intended to enable future advancements of the air transportation system for the public good.

945. The NASA Technology Readiness Levels (TRLs) illustrate the difference between what NASA does and what industry does. The TRLs are a maturity assessment and comparison system used by both NASA and DoD to describe the development of technology. The TRL scale runs from 1 to 9, with 1 being basic research and 9 being actual system testing and operation. As the EC acknowledges, NASA has historically focused on



¹¹⁸⁴ By comparison, in 2006 alone BCA spent \$2.39 billion in research and development. Boeing 2006, Form 10-K, p. 22 (Exhibit US-322).

¹¹⁸⁵ An innovative aircraft of this kind by definition requires a massive investment. As an example, Airbus purportedly expects to spend \$15.4 billion on the A350 XWB. Andrea Rothman, “Airbus 350 Cost Rises to \$15.4 Billion on Composites,” Bloomberg.com, December 4, 2006 (Exhibit US-323).

developing technology through TRL 1 through 6.¹¹⁸⁶ This means that typically NASA has aimed at technology research from basic principle observation through component validation.¹¹⁸⁷

946. As a result, NASA research is generally too early stage to either be relevant to or have an effect on either aircraft product development choices or the product development schedule. This is certainly the case for any programs challenged by the EC of relevance to the 787.¹¹⁸⁸ The basic research the company conducted for NASA simply cannot be compared to the degree of technological refinement, testing and investment required for Boeing to develop the 787.

947. Moreover, NASA R&D provides no competitive advantage to Boeing, as it is generally available to the aerospace industry at large, including to Airbus.¹¹⁸⁹ The EC makes much of the experiences gained by Boeing employees on NASA R&D projects, including those testing technologies that ultimately proved infeasible.¹¹⁹⁰ To the extent that NASA R&D work provided “lessons learned” to Boeing, including pitfalls to avoid, these lessons and results were accessible by Airbus. The EC’s own brief cites to many of these publicly available research results.¹¹⁹¹ This only highlights what the EC fails to acknowledge – that NASA R&D cannot provide a competitive advantage to Boeing because the results are available to the entire industry.¹¹⁹²

¹¹⁸⁶ ECFWS, Annex C, par. 15 and Dominik Wacht, “An Analysis of Selected NASA Research Programs and Their Impact on Boeing’s Civil Aircraft Programs,” p. 25 (Exhibit EC-15) (noting that “the focus has typically been on TRLs 3-5”); John C. Mankins, “Technology Readiness Levels: A White Paper,” NASA, Office of Space Access and Technology, (Apr. 6, 1995) (Exhibit US-324).

¹¹⁸⁷ John C. Mankins, “Technology Readiness Levels: A White Paper,” NASA, Office of Space Access and Technology (Apr. 6, 1995) (Exhibit US-324).

¹¹⁸⁸ For example, while the EC highlights the ACT Program and argues that the research conducted under this initiative “contributed greatly to Boeing’s ultimate development of the composite fuselage and wings for the 787”, it fails to mention that the NASA ACT wing technology was not adopted by Boeing and that the planned ACT composite fuselage research was cancelled due to lack of funding prior to the fabrication of any large components. See ECFWS, Annex C, paras. 26-28 (alleging that ACT “helped Boeing develop the technology required to manufacture large composite parts.”)

¹¹⁸⁹ In fact, the lessons learned from composite research have been disseminated well beyond the aerospace industry, and have informed the development of composite usages in many industries. This is one reason why Boeing has looked to suppliers and partners outside of the aerospace industry for useful experience and innovation.

¹¹⁹⁰ ECFWS, par. 1356.

¹¹⁹¹ Dominik Wacht, “An Analysis of Selected NASA Research Programs and Their Impact on Boeing’s Civil Aircraft Programs,” FNs 30, 35, 42, 51, 56, 60, 62, 69, 73-87, 89-108, 110-114, 116, 120-121, 123-129, 131, 136-139, 185-191, and 215-217 (referencing Contractor Reports from the AST Composite Wing Program, Advanced Technology Composite Fuselage Program, Advanced Stitching Program, Advanced Composites Wing Technology, among others, as well as reports from public NASA Technology Conferences) (Exhibit EC-15). Interestingly, several of the NASA/DOD conferences referenced in this exhibit, including the Conference on Aging Aircraft, were ones which Airbus not only attended, but in which it was an active participant.

¹¹⁹² Affidavit of Michael Bair, para. 6 (Exhibit US-7) (noting that because “the results of R&D are so widely disseminated throughout the global aerospace industry. . . while they may form a common base of aerospace knowledge, they cannot form the basis of a competitive advantage for Boeing.”)

- d. *DoD R&D is not technologically relevant to large civil aircraft, and in any case is not on the 787.*

948. DoD-funded research on aircraft is intended for military use, and by definition is designed to fulfill military functions. This includes developing technologies that are not relevant to large civil aircraft, such as stealth technology, flight at supersonic speeds, unmanned flight, and the ability to land in harsh environments,¹¹⁹³ not what aircraft designers or aircraft customers consider either commercially viable or economically feasible.¹¹⁹⁴

949. Military technologies have not been useful to the 787, which uses a different type of composite material, has more stringent commercial requirements, and demands a higher efficiency/production rate than required by DoD.¹¹⁹⁵ Methods sufficient for producing less than ten expensive military aircraft per year, such as those employed on the C-17 program, could never work for the significantly higher rates of lower-cost commercial aircraft demanded by the market.¹¹⁹⁶ In addition, the standards used for military aircraft would not conform with the requirements of aviation regulatory authorities, such as the Federal Aviation Administration (FAA), or customer demands for the 787. Using materials developed for military aircraft would require completely re-designing their structural properties to conform to commercial requirements, including safety, comfort and reparability needs.¹¹⁹⁷

950. It is instead technology development within the commercial sector that is proving useful to the DoD. The agency acknowledges that it relies heavily on industry as both a way of accessing innovative technology and knowledge and sharing costs/risks with the commercial

¹¹⁹³ Affidavit of Michael Bair, para. 26 (Exhibit US-7).

¹¹⁹⁴ Affidavit of Michael Bair, para. 25 (Exhibit US-7).

¹¹⁹⁵ Affidavit of Michael Bair, para. 27 (Exhibit US-7) (explaining that military aircraft are extremely expensive and their production rate has no bearing on the commercial market).

¹¹⁹⁶ Affidavit of Michael Bair, para. 27 (Exhibit US-7).

¹¹⁹⁷ Affidavit of Michael Bair, para. 26 (Exhibit US-7).

sector.¹¹⁹⁸ The technology transfer to BCA alleged by the EC as a result of Boeing’s IDS contracting has actually been in the opposite direction.¹¹⁹⁹

951. To the extent that DoD-funded technology has a theoretical civil application, it cannot reasonably be used commercially. Boeing, like all U.S. persons, is subject to the International Traffic in Arms Regulations (ITAR), which control the export of all defense articles and services.¹²⁰⁰ As we explained in Part III, Section C.3, items subject to the ITAR cannot be exported without a license or applicable exemption.¹²⁰¹ Penalties for ITAR violations include seizure and forfeiture of attempted exports, statutory debarment from exporting (including denial of the issuance of licenses), significant fines, and criminal prosecution.¹²⁰²

952. Defense articles and services include items designed, developed, modified or configured for military application, regardless of the intended end-use of the item (military or commercial).¹²⁰³ What matters is whether the item was developed for a military purpose. The regulations contain no *de minimis* exclusions or exceptions to the controls. Therefore, with very few exceptions, any item that is a defense article is controlled even when incorporated into a much larger item and even when the ultimate product of which it is only a small component is

¹¹⁹⁸ Department of Defense News Briefing, Dr. Paul Kaminski, Under Secretary of Defense for Acquisition and Technology (February 13, 1995), p. 2 (Exhibit US-325) (noting that “A good piece of my strategy is to try to leverage what is happening in the commercial industrial base . . . {i}n so many of the areas that drive the leading edge of DoD technology, DoD is no longer in the lead in pushing forward that investment base. It’s commercial industry that’s leading in information systems, telecommunications, micro-electronics. So the issue is leveraging off this investment base in a technology sense.” Department of Defense, Annual Industrial Capabilities Report to Congress, Office of Under Secretary of Defense, Acquisition, Technology & Logistics Industrial Policy, p. 9 (February 2007) (Exhibit US-326) (explaining that “{I}n the last two decades, the Department has increasingly utilized commercial items and services because they contain the most current and advanced technology available, allow development costs to be amortized over the broader commercial base, and are available from numerous competitive suppliers.”)

¹¹⁹⁹ Statement of the Honorable Jacques S. Gansler, Under Secretary of Defense for Acquisition and Technology, , Subcommittee on Acquisition and Technology, Senate Armed Services Committee, p. 10 (Mar. 12, 1998) (Exhibit US-37) (explaining that “{t}he maintenance of our technological superiority on future battlefields will depend heavily on our ability to capitalize on the technological advances taking place in commercial industry... {t}he Department plans to continue to increase its reliance on commercial technologies. In many cases, there is simply no choice.”)

¹²⁰⁰ 22 C.F.R. § 120 (Exhibit US-42).

¹²⁰¹ 22 C.F.R. § 123.1 (Exhibit US-48). In limited instances, license exemptions may be available for sales made by the US Government under the foreign military sales program, exports by or for a US agency, certain shipments to Canada, and various eligible hardware (if under \$500 value and used to support previously authorized exports). 22 C.F.R. §§ 126.6(c), 126.4, 126.5 (Exhibit US-49), and 22 C.F.R. § 123.16 (Exhibit US-50).

¹²⁰² ITAR violators face potential penalties pursuant to 22 U.S.C. §§ 2778, 2779a, and 2780 for each ITAR violation.

¹²⁰³ 22 C.F.R. § 120.3 (Exhibit US-42) (noting that “the intended use of the article or service after its export. . . is not relevant in determining whether the article or service is subject to the controls of this subchapter.”) Likewise, technical sophistication, age, foreign availability and common availability on the U.S. market are all irrelevant as to whether an item is controlled by the ITAR.

clearly commercial. Because of their military nature, technologies and products developed by Boeing under DoD contracts are generally subject to the ITAR and require a license. Practically speaking, this means Boeing would be required to obtain a license for any ITAR-controlled component on every single aircraft leaving the United States (even if the plane itself was not ITAR-controlled).

953. The difficulty of determining the precise heritage of every item on a commercial aircraft, the severe financial and business consequences of inadvertently violating ITAR, and the commercial infeasibility of pursuing licenses for every sub-component of the plane led Boeing to make a commercial decision to make the 787 “ITAR-free” and to ensure that only technologies with a documented civil origin were used on the 787.¹²⁰⁴ As a result, none of the alleged subsidized technologies identified by the EC are actually on the 787.

5. *The alleged subsidies did not have price effects on the 787, as the EC claims.*

954. The nature of the alleged subsidies and the way Boeing used the funds prevented those programs from having the price effects asserted by the EC. The EC has failed to meet its burden of proof to show such effects. The Cabral Report, which underpins the EC’s price effect analysis, assumes what it purports to prove, resting on assumptions that are contrary to fact and dubious methodologies at odds with sound economic practice. The EC’s attempts to lay out a mathematical connection between the subsidies and the supposed serious prejudice are riddled with errors. The calculations of the “magnitude” of alleged subsidies rely on highly overstated valuations of the benefit conferred by U.S. government programs. The EC’s effort to state that figure on a per-aircraft basis magnify the error still further, as the calculation relies on assumptions that are both internally inconsistent and out of touch with the realities of the large civil aircraft market. Similarly, the EC’s conversion of the results of the Cabral Report into a numerical per-aircraft “price effect” adds to the intrinsic errors of those results by allocating them to particular models and derivatives without any explanation or evidentiary support. In fact, the nature of the subsidies shows they had no effect on prices at all.

a. The nature of the alleged subsidies would not give them any effect of the price of the 787.

955. The EC argues that the alleged subsidies affect 787 pricing by acting as incremental non-operating cash flow to Boeing. As demonstrated below, the nature of the alleged subsidies is such that a given amount of subsidization is not equivalent to cash and would not affect Boeing’s pricing in particular sales campaigns. Moreover, the EC’s price effects theory fails because, by resting on the assertion that the bulk of the alleged subsidies (which the EC describes as

¹²⁰⁴ Affidavit of Michael Bair, para. 31 (Exhibit US-7). Boeing has imposed similar requirements on its suppliers, all of whom are required to certify that all items and technologies supplied are of non-military origin. Boeing Program Process Document 78700-3292 (April 28, 2006) (Exhibit US-327) (detailing the comprehensive review undertaken by Boeing to ensure that ITAR-controlled technology, data or items are not incorporated into the 787).

“development subsidies”) are simply “fungible” cash to Boeing, it treats the nature of the alleged subsidies as irrelevant. The panel in *US – Upland Cotton* rejected a similar claim in the context of a price suppression claim, even while acknowledging that the challenged non-price contingent measures provided “higher cash flow and higher wealth” to cotton producers.¹²⁰⁵

956. As we noted in Section B.3, the facts in this dispute require the division of the alleged subsidies into four groups for analysis of their effects, and should also take account of the fact that programs related to military activities or companies other than Boeing will have a different effect than programs involving civil research or direct payments to BCA. All of the general comments we make in Section B.7 apply specifically to the effect of the programs identified by the EC on the 787. This section provides additional comments applicable specifically to the EC’s assertions regarding the 787.

957. **Tax reduction programs.** The EC concedes that the Panel should exclude FSC/ETI benefits from its analysis as to the 787,¹²⁰⁶ which leaves only the B&O tax reduction, Wichita IRBs, and the Washington state sales tax reduction. As we have noted previously, these measures are not subsidies. In addition, Boeing does not realize any fiscal effect of the B&O tax reduction for the 787 program until the B&O tax falls due upon delivery of an airplane, which for the 787 will not occur until 2008. The EC has provided no reason to conclude that Boeing would cut the price of its 787 sales by the amount of the B&O tax reduction. Indeed, with an aircraft as popular as the 787, the more logical conclusion would be that Boeing would keep the full value of the tax reduction for itself in the form of higher profits. Thus, these programs had **no effect on prices for the 787.**

958. **Contractual research payments.** With regard to the price effect of these programs, the EC asserts that with the “cash flow” they generate “Boeing can invest in lower prices and additional R&D to lower its costs of research, development, production, and sale of 787 family LCA.”¹²⁰⁷ The claim that these programs lower the cost of research is just another way of saying that the EC thinks the programs have what the EC calls a “knowledge” effect. That assertion is no more accurate in the guise of a “price effect” analysis than in the EC’s assertions regarding “technology effects.” The Panel should accordingly reject this element of the EC’s argument for the reasons we lay out in Section C.4.

959. As for the effect on the price, we explained in Sections B.6 and B.7, these programs had no effect on Boeing’s non-operating cash flow, as there is no evidence that BCA would have spent more for civil aircraft research in the absence of the alleged subsidies. And, even if Boeing would have incurred increased costs, the EC provides no evidence that Boeing’s price would have

¹²⁰⁵ *US – Cotton Subsidies (Panel)*, para. 7.1305 n.1417.

¹²⁰⁶ ECFWS, paras. 1344, figure 24, and 1370.

¹²⁰⁷ ECFWS, para. 1373.

differed. This is especially the case with military programs and the 787, as Boeing used only technology with a documented civil origin in developing the 787.¹²⁰⁸

960. NASA contractual research payments also had no effect on the 787. The key technologies that the EC associates with NASA pertain to the use of composites. Essentially all of the results of Boeing's composites research relevant to large civil aircraft was released to the public long ago. Thus, assuming *arguendo* that the results of such research could result in cost saving to the production or development of large civil aircraft, Airbus had access to the same information for the nominal cost of downloading reports from the NASA server, purchasing the reports in hard copy, or attending one of many symposia or conferences at which NASA research was discussed. In addition, companies other than Boeing conducted the large majority of the research contracted by NASA under the programs covered in the EC claims. Airbus also has access to those parties. (For example, GE, which supplies engines for Airbus aircraft, participated in some NASA programs.)

961. In any event, contractual research payments would have no effect on Boeing's non-operating cash flow, which is the mechanism the EC posits for price suppression. During the period under consideration, Boeing had excess operating cash flow after it had spent all of the money it could economically justify on aircraft investments (including research). In fact, Boeing's large commercial airplane division routinely transfers cash to Boeing's parent company (The Boeing Company) and Boeing Company business divisions,¹²⁰⁹ which then use the funds along with other sources of cash for acquisitions, pension plan repayments, investments in securities, dividend payments, stock repurchases, and other applications unrelated to commercial aircraft R&D or commercial aircraft pricing.¹²¹⁰ The details are available from the statements of cash flows in The Boeing Company's public financial statements, sources of information that the EC and its consultants apparently have not examined. In fact, Boeing's internal funds and access to capital markets were more than sufficient to develop on its own any technology that the EC alleges to have been created with government funds.

962. In short, contractual research payments had **no effect on prices for the 787**.

963. **Government facilities and personnel.** Boeing's use of government facilities had no effect on prices for the 787. Such use is relatively infrequent and is subject to fees set at market prices or, in some cases, at higher than market prices. The activities of government personnel were even less likely to have any effect on the production or development of the 787. As we showed in Section C.4, government workers did not participate in those activities. This is especially the case with DoD personnel with regard to the 787, as Boeing used only technology of documented civil origin in its development. Therefore, programs such as these did not bear any share of Boeing's product development cost and, consequently, cannot have freed up "non-operating cash

¹²⁰⁸ Affidavit of Michael Bair, para. 31 (Exhibit US-7).

¹²⁰⁹ Statement of Robert J. Pasterick at paras. 2-3 (Exhibit US-274).

¹²¹⁰ Statement of Harry S. McGee III at para. 2 (Exhibit US-376).

flow” for use in, among other things, aggressive pricing on close sales. Therefore, government facilities and personnel had **no effect on prices for the 787**.

964. **Other programs.** In Section B.7, we showed that these programs – DoD B&P expense reimbursements and KDFA bond financing – had no effect on Boeing’s development and production of large civil aircraft. Boeing’s decision to use only technology with a documented civil origin on the 787 merely underscores that DoD B&P expense reimbursements conferred no benefit to the production or development of large civil aircraft.

b. *The Panel should place no weight on the EC’s product-specific price effect calculations, which are doubly erroneous, as they start with artificially high subsidy magnitude and derive a price effect based on Prof. Cabral’s faulty conclusions.*

965. The EC’s 787-specific “calculation” of the alleged price effects of its alleged “development subsidies” relies entirely on an analysis of Professor Luis B. Cabral of NYU’s Stern Business School (the “Cabral Report”). For the reasons discussed above at length and elaborated on in commentary by Professor Bruce C. Greenwald, the Robert Heilbrunn Professor of Finance and Asset Management at Columbia University and Dr. James Jordan and Dr. Gary Dorman of NERA, the Cabral Report fails as a serious effort to calculate the effects of the subsidy for several reasons:

- it assumes the central point it purports to prove;
- it depends on the incorrect assertion that Boeing’s access to capital markets is “constrained”;
- Professor Cabral fails to understand the relevant economics literature, including Professor Greenwald’s work, regarding the reliance of companies like Boeing on cash flow to support investment;
- it relies on mistaken assertions about the extent to which there are learning curve production efficiencies and switching costs associated with sales of the Boeing aircraft subject to Professor Cabral’s analysis;
- it accepts as fact the EC’s erroneous allegations about the nature and magnitude of the alleged subsidies;
- it depends on the assumption that Boeing’s uses of non-operating cash flow are restricted to (1) payments to shareholders and (2) investments in aggressive pricing and product development, even though Boeing’s financial statements prove that the assumption is incorrect.

There is, in sum, no credible basis for the Panel to conclude that the Cabral Report provides an accurate analysis (or even a reasonable estimate) of the price effects of the alleged subsidies on sales of Boeing's 787.

- c. The magnitude of the benefit conferred by these programs is too small to have caused serious prejudice.*

966. As we have shown throughout this submission, the EC's magnitude analysis is irredeemably flawed. First, the EC has overstated the value of the benefit associated with the subsidies it alleges. Second, its calculations to derive family-specific *ad valorem* benefit levels are self-contradictory, in that they treat programs alleged to have a non-operating cash flow effect on BCA as being related to specific products, and contrary to the evidence in concluding that certain programs benefitted the 787. Finally, the EC errs in treating a large number of sales as non-competitive, and in concluding that Boeing would be able to pick and choose exactly which potential orders would receive the benefit of subsidies. The result is a set of thoroughly distorted figures that exaggerate the the magnitude of the alleged subsidies and then artificially escalate the magnitude again in relation to select transactions. The Panel should reject them.

967. The pinpoint percentages calculated by the EC as per-aircraft price effects of alleged subsidies are also not required by the SCM Agreement. In past disputes concerning the magnitude of alleged subsidies, it appears that panels simply compared the alleged subsidy to the value of the relevant product. The same comparison in this dispute reveals a vanishingly tiny figure. For this dispute, taking the programs that the United States recognizes as subsidies and comparing them with Boeing's order value in each year reveals a magnitude of less than 1 percent. This is too small to have any effect on the development or production of a large civil aircraft.

- 6. *Factors other than the alleged subsidization explain any indication of serious prejudice experienced with regard to the A330, A350 Original, and A350 XWB, and break any causal link with subsidization.***

968. The EC identifies three forms of serious prejudice to the A330, A350 Original, and A350 XWB: price suppression, lost sales, and displacement or impedance of imports and exports into the U.S. and third country markets. It identifies five ways in which the alleged subsidies supposedly caused the serious prejudice that it observes. However, three factors other than the alleged subsidies explain all of the market developments that the EC identifies: (1) problems with the A380; (2) problems with the A350, and (3) appreciation of the euro against the U.S. dollar.

969. The *first purported causal link*, and the one the EC makes most often, is that "the technology effects of the US subsidies for the 787 allowed Boeing to promise deliveries of a

technologically-advanced 200-300 seat LCA five years before Airbus.”¹²¹¹ The EC asserts this development as an explanation for price suppression, lost sales, and displacement/impedance. In preceding sections, we explained why the alleged subsidization is not responsible for the gap between the first customer deliveries of the A350 XWB and 787. In fact, the different priorities that Boeing and Airbus had, and the consequently different allocation of their development resources, fully explain the different timing as to entry into service.

970. Consider: Boeing announced the Sonic Cruiser (its conceptual new mid-sized airplane) in October 2001. It responded to customer criticisms of this proposal and launched its eventual market concept in late 2002, a gap of one year. Airbus announced the A350 Initial in September 2004, almost three years after announcement of the Sonic Cruiser. This delay by itself explains three years of the gap. Like Boeing’s initial concept, the first iteration A350 was subject to significant customer criticism. Airbus took nearly two years (rather than the single year Boeing took) to conceive of a new concept responsive to customers’ complaints, and did not announce the A350 XWB until July 2006. Together with the initial delay in beginning the A350, this extra year that Airbus spent finding a marketable design explains four years of the five-year gap between first delivery dates of the A350 and the 787. Airbus’s shortage of product development resources explains any additional gap. Even though Airbus engineers have made progress in untangling the A380 wiring mess, the company still faces a shortage of engineers. This shortfall is so acute that even though Airbus is seeking to reduce employment by a net 10,000 employees, it is in the process of hiring 1000 engineers because “we need more employees in production and also in development because we want to further increase the manufacturing rate of small jets and because we must also work also hard on the A380.”¹²¹²

971. It is possible that the A350 XWB will be delayed still further, increasing the delivery gap between the 787 and A350. If so, the delay will have nothing to do with the alleged subsidies. Rather, because Boeing has only one commercial development program under way, it can devote its full resources and attention to that program. Airbus, in contrast, has had to deal with the immense drain of first designing the A380 and then fixing the serious design flaws with that aircraft. These tasks have deprived the company of personnel and monetary resources that it could otherwise have devoted to expediting the A350 XWB.

972. The *second purported causal link*, which is related to the first, is the EC’s claim that the subsidies “enabled Boeing to seize over 400 orders for the 787 by offering . . . early delivery slots to customers by ensuring that Boeing can quickly ramp up its 787 production.”¹²¹³ The EC asserts this development as an explanation for price suppression, lost sales, and displacement/impedance.

¹²¹¹ ECFWS, paras. 1392-1393, 1429, and 1443.

¹²¹² Airbus CEO Louis Gallois, “Interview: Airbus CEO in interview with Hamburger Abendblatt: ‘10.000 jobs must go,’” *Hamburger Abendblatt* (June 9, 2007) (Exhibit US-367); Airbus, Careers centre: Frequently asked questions (“In addition to its 57,000 direct employees, Airbus is hiring new engineers for several of its aircraft programmes including the A380 and the new A350.”) (Exhibit US-368).

¹²¹³ ECFWS, para. 1392. Additional references to this supposed causal link appear in paragraphs 1429 and 1443.

However, as with the early availability point, Airbus’s need to divide its efforts between the A380, A350, and A400-M fully explains any difficulties in commencing production quickly. There is only so much one company can do. Another is that Airbus is only now making structural changes “that {Airbus CEO} Gallois said should have been made in 2001,” namely “evolv{ing} increasingly into an overseer of designs and manufacturing rather than performing the functions itself.”¹²¹⁴ Boeing began those changes long ago. To the extent that Airbus cannot “ramp up” production as fast as Boeing – a claim for which the EC has provided no support – Airbus’s failure to start reorganization until recently fully explains any difference.¹²¹⁵

973. The *third purported causal link* is that the alleged subsidies allowed Boeing to “pric{e} its 787 LCA at a level that is the *same as or lower than* its 767 LCA.”¹²¹⁶ The EC asserts this development as an explanation for price suppression, lost sales, and displacement/impedance. The EC itself concedes that it bases this claim on Boeing’s list prices, and that “{i}t is normal for aircraft manufacturers to offer price discounts during the launch phase of a new LCA programme in order to progress along the learning curve and gain acceptance of a new product in the market.”¹²¹⁷ Therefore, even under the EC’s theory, pricing on the 787 merely tracks standard industry practice. (In fact, if Boeing’s launch price is at the price point of existing aircraft, that suggests that the price will be *higher* once Boeing ceases offering launch pricing.) Even more importantly, it is not subsidies that allow Boeing to offer this pricing. Rather, after customers rejected the high-tech, but more expensive, Sonic Cruiser, one of the central research objectives of the 787 development program was to identify materials and production processes that would produce a markedly more efficient aircraft at the prevailing price for smaller mid-sized aircraft.¹²¹⁸ [***]¹²¹⁹ As outlined above, Boeing’s ability to meet the objectives of the 787 program came from the fact that it started early and devoted its full attention to project objectives. Moreover, to the extent that Boeing needed more R&D funding, it did not have to rely on the programs identified by the EC. It could fund any product investments from readily available cash reserves.

974. The *fourth purported causal link* is that “Airbus attempted to compete against the 787 with its original A350 family, but because Airbus did not have access to similar R&D subsidies, its original A350 fell short of the 787 in terms of technological advancements and delivery schedule.”¹²²⁰ The EC asserts this development as an explanation for price suppression, lost sales, and displacement/impedance. The problem, however, was not Airbus’s access to technology.

¹²¹⁴ Tim Hepher, “Airbus lowers national flags in new structure,” *Reuters* (June 7, 2007) (Exhibit US-379).

¹²¹⁵ Airbus announced its Power8 program in February 2007.

¹²¹⁶ ECFWS, para. 1394 (emphasis in original). Additional references to this supposed causal link appear in paragraphs 1429 and 1443.

¹²¹⁷ ECFWS, para. 1394.

¹²¹⁸ Paragraphs 25 and 26 of the U.S. Campaign Annex provides additional information on this point.

¹²¹⁹ U.S. Campaign Annex, paras. 15, 20 for additional information on this point

¹²²⁰ ECFWS, para. 1410. An additional reference to this supposed causal link appear in paragraph 1443.

Indeed, prior to the launch of the 787, Airbus had viewed itself as leading the field in use of composites in large civil aircraft, and had included more composites on the A380 than on any previous large civil aircraft. The problem was that, to conserve money and resources, Airbus purposely designed an aircraft that took the A330 as its base and, therefore, could not match the entirely new 787. When Airbus finally abandoned that approach two years later with the launch of the A350 XWB, it was able to produce an aircraft that Airbus and its customers consider competitive with the 787. There were no major technological developments during that period. The only change was that Airbus concluded that it had to commit to an all-new aircraft, and worked with its suppliers to make that happen. Thus, the technological shortcomings of the A350 Original were not a result of the alleged subsidies. They were the result of the overextension of Airbus product development resources and poor planning on the A350 Initial and A350 Original.

975. Airbus also experienced difficulties in selling the A350 Initial and the A350 Original because [***]¹²²¹ [***]¹²²² [***]

976. The *fifth purported causal link* is that “[***]”¹²²³ and that [***]¹²²⁴ However, that Airbus [***] is not an effect of subsidies, especially where [***], and we have shown that that is not the case. That customers [***] is hardly unexpected. [***] and maintaining customer relations (rather than any subsidy) necessitated that it keep that promise.

977. Finally, as noted in Section A, dollar depreciation had a broad impact on Airbus’s performance. Since Airbus incurs costs primarily in U.K. pounds and euros but receives revenue in U.S. dollars, every time the U.S. dollar dropped one percent against the euro, it was as if Airbus’s Euro-equivalent revenue decreased by one percent. This made it difficult for Airbus to keep pricing at existing levels and remain profitable. The dollar fell in value by 25 percent between January 21, 2001, and January 2, 2004, and then fell *again*, by three percent, by December 29, 2006.¹²²⁵

978. In short, factors other than increased imports are responsible for all of the negative developments that the EC has alleged. The Panel should, accordingly, reject the EC’s arguments.

7. *The programs identified by the EC did not cause price suppression of the A330, the A350 Original, or the A350 XWB.*

¹²²¹ U.S. Campaign Annex, para. 23.

¹²²² Paragraphs 29-30 in the U.S. Campaign Annex provide further information relevant to this topic.

¹²²³ ECFWS, para. 1412.

¹²²⁴ ECFWS, para. 1409.

¹²²⁵ European Central Bank, Euro Exchange Rate (Exhibit US-332).

- a. *There was no reason to expect A330 prices to be higher than they actually were in the 2004-2006 period, and if any price suppression did occur, it was the result of factors other than the alleged subsidies.*

979. The EC cites each of the purported causal links between the alleged subsidization and serious prejudice in arguing that the U.S. programs caused price suppression to the A330, A350 Original, and A350 XWB. Sections C.4 and C.5 showed in general why the alleged subsidies did not have the “technology effects” and “price effects” asserted by the EC. Those observations hold true in particular for the alleged price suppression of the A330.

980. The EC makes a point of conceding that A330 prices were not depressed.¹²²⁶ We agree. However, it asserts that, in light of increasing demand for mid-sized large civil aircraft in 2005 and 2006, A330 prices should have risen, and that the reason they did not was the alleged subsidization. In this, the EC is wrong.

981. *First*, the EC is correct that demand for mid-sized aircraft increased in 2005 and 2006. In fact, demand rose for large civil aircraft in general. But that does not mean that demand *for the A330* at its 2004 price point increased. In fact, several factors *depressed* demand for the A330 during that time. After the A330 marginalized the 767 as a passenger aircraft, it enjoyed several years of little or no competition, which meant that demand for mid-sized large civil aircraft was essentially synonymous with demand for the A330. That started to change when customers began buying the 787 in 2004. But competition became even tougher once Airbus announced the A350 Initial in October 2004. Designed to compete with the 787, the A350 also overlapped substantially with (and, in fact, was initially based upon, the A330. And while the A350 Initial and A350 Original [***], they had two important effects on the market. [***]¹²²⁷ [***]. That meant that Airbus was offering the same number of A330s for a smaller portion of the market. Second, the existence of the A350 Initial and A350 Original created uncertainty about the direction Airbus was taking. Customers who might have bought the A330 had an incentive to wait and see if the final version of the A350 did, in fact, meet Airbus’s promises of superior technology.

982. Second, the market conditions in 2005 and 2006 did not support an expectation of increased prices for the A330, even if demand had increased. As we have pointed out with regard to the Sonic Cruiser, customers made clear that they were not interested in an improved aircraft at a higher price. Even the EC admits that, as a general rule, aircraft purchasers have consistently sought lower prices.¹²²⁸ [***] And, as Airbus itself marketed the A350 (both Initial and Original) as superior, that would make it difficult for Airbus to increase the price for A330s.

¹²²⁶ ECFWS, para. 1390.

¹²²⁷ U.S. Campaign Annex, Campaign 2.

¹²²⁸ ECFWS, para. 1451 (“future LCA sales campaigns will continue to be price- and value-sensitive, as airlines seek to counter their rising costs by demanding lower prices for new LCA.”).

983. Thus, the EC’s supposition that “*something* pressed down A330 prices in the 2004-2006 reference period”¹²²⁹ is correct – but not in the way that the EC believes. A multitude of factors drive airline economics, and those factors did not support an increased price point for mid-sized large civil aircraft at that time.¹²³⁰ In addition, Airbus’ offering of the A350 ate into demand for mid-sized aircraft produced by Airbus. Those facts had nothing to do with alleged subsidization by the United States.

984. Even if the Panel concludes that A330 prices should have been higher, the EC has provided no reason to conclude that this condition is the effect of the alleged subsidies. We addressed the EC’s assertions in our discussion of its “technology effect” and “price effect” theories, and we will not repeat that analysis here. By way of summary, as we showed in Section C.4, Boeing used readily available commercial technologies and design systems to launch the 787. The programs identified by the EC did not allow the United States “to promise deliveries of a technologically-advanced 200-300 seat LCA five years before Airbus.”¹²³¹ Any developments in production or in efficient organization were the result of Boeing’s own efforts. The programs identified by the EC did not “enable Boeing to seize over 400 orders for the 787 . . . by ensuring that Boeing can quickly ramp up its 787 production.”¹²³² As we showed in Section C.1, Boeing’s pricing for the 787 was determined by the market and consistent with industry practice of offering discounts to launch customers. That price would not have been any different had the alleged subsidies not existed. Therefore, the alleged subsidies were not relevant to Boeing’s pricing.

985. The EC’s calculations of the magnitude of the subsidies do not establish a causal link, either. As we showed in Section B.5, the EC’s subsidy magnitude calculation, in aggregate and especially on a per-plane basis, is not valid. And, as we showed in Section B.6.b, the same holds true for the EC’s estimated price effects analysis.¹²³³

986. Finally, as we explained in Section C.6, if there has been any suppression of A330 prices, factors other than subsidization are the cause, and not the U.S. programs identified by the EC. Therefore, the Panel should reject the EC’s claim that the alleged subsidies caused price suppression to the A330.

b. Prices for the A350 Original and A350 XWB were not suppressed.

987. Unlike in its analysis of the A330, the EC leaps right to an argument that the alleged subsidization suppressed prices for the A350 Original and A350 XWB, without demonstrating that those prices would have been higher in the absence of the alleged subsidies. In fact, the

¹²²⁹ ECFWS, para. 1389.

¹²³⁰ Paragraphs 25-26 of the U.S. Campaign Annex contains additional information on this point.

¹²³¹ ECFWS, para. 1392.

¹²³² ECFWS, para. 1392.

¹²³³ ECFWS, para. 1401.

evidence indicates the opposite. Given the status of all of the iterations of the A350 as newly announced aircraft without firm configurations, the expectation would be low prices. In any event, it is clear that whether or not prices are unexpectedly low, their level is not the effect of the alleged subsidization.

988. To begin with, demand for A350 Initial [***] Even when the company upgraded plans to the A350 Original, demand remained low. Orders were limited and respected customers denigrated the design. On top of this, throughout the October 2004-2006 period, the A350 (Initial, Original, and XWB) were constantly at a launch stage, a point when, as the EC concedes, “{i}t is normal for aircraft manufacturers to offer price discounts.”¹²³⁴ The constantly shifting designs of the A350 also depressed demand, leaving customers uncertain about how it compared with the competition. With all of these limitations, there is no reason to believe that A350 (Original or XWB) prices are lower than they would otherwise be, or to expect that they should be higher.

989. Nevertheless, the EC devotes a great deal of space to attempting to demonstrate that the alleged subsidies are responsible for price suppression to the A350 Original. It offers the same explanations that it did for its allegations of price suppression to the A330. However, they are no more credible when applied to the A350 Original. For example, the EC argues that the 787 suppressed prices because the A350 Original “fell short of the 787 in terms of technological advancements and delivery schedule” because “Airbus did not have access to similar R&D subsidies.”¹²³⁵ The EC provides no support for this claim, because there is none. One year after announcing the A350 Original, Airbus announced A350 XWB, which it says is comparable to and, in some respects, better than the 787. Thus, the company clearly had “access” to competitive technology, but simply failed to use it during the period when Airbus tried to cut costs on the A350 by making it an A330 derivative.

990. The EC also argues that Boeing suppressed prices because [***].¹²³⁶ As we have shown, however, there was always a limit to prices that airlines and leasing companies would pay for a mid-sized aircraft like the 787 and A350. Boeing responded to that demand. Indeed, there would have been no 787 if Boeing had not found technologies to get production costs to a point where it could hit the customers’ price point. [***]

991. The EC does *not* allege that the 787 directly suppressed prices for the A350 XWB. Instead, it asserts that the A350 Original prices suppressed prices for the A350 XWB.¹²³⁷ The EC even reveals that [***]. As to the first point, we have shown that any suppression of A350 Original prices was the effect of poor design choices on the A350 Initial and A350 Original, and

¹²³⁴ ECFWS, para. 1394.

¹²³⁵ ECFWS, para. 1410.

¹²³⁶ ECFWS, para. 1412.

¹²³⁷ ECFWS, para. 1409 (“Despite the fact that the original A350 has been superseded by the A350 XWB, the suppressed A350 prices continue to cause serious prejudice.”).

uncertainty about the features of the final version. If those choices have follow-on effects on the A350 XWB, that cannot be an effect of the alleged subsidies. As to the second point, that, too, is due entirely the fault of Airbus. [***] Note also that, due to repeated concept and design changes, Airbus was constantly forced to offer concessions to gain sales momentum for the latest A350 iteration, resulting in lower prices than if it had started with a well-conceived new design.

992. The EC once more tries to use its magnitude and price effects calculations, this time to suggest that alleged subsidization caused price suppression of the A350 Original. (The EC does not allege that these analyses support its conclusions regarding A350 XWB.) But, as we showed in Sections B.5 and B.6.c, the EC’s subsidy magnitude and price effects calculations, in aggregate and especially on a per-plane basis, are invalid.

993. The EC also argues that the conditions of competition for smaller mid-sized large civil aircraft suggest that “Boeing had the ability and incentive to use its subsidy benefits to price down 787 LCA in strategic campaigns against Airbus.”¹²³⁸ The EC bases this conclusion on its claims regarding the “substitutability” of the 787 and A350 Original,¹²³⁹ but in fact, the EC itself notes that those two aircraft are not substitutable.¹²⁴⁰

994. The EC also asserts that evidence from sales campaigns supports its view that subsidization of the 787 suppressed prices on the A350 Original. Again, it is wrong. Most of the support for the EC arguments in this regard comes from HSBI in the EC Campaign Annex. The U.S. Campaign Annex shows how the evidence on which the EC relies, along with additional HSBI submitted by the United States, supports the opposite conclusion – that 787 pricing is not responsible for the prices on the A350 Original in 2005 and 2006. A few general observations are important in evaluating the EC claims. First, the principal EC argument is that the 787 suppressed A350 Original prices because customers demanded the same (or lower) prices, or sales conditions, on both. However, this assertion simply serves to validate our observation that customers for mid-sized large civil air craft will not go above the particular price point at which they no longer have an incentive to purchase new aircraft. [***] Second, for much of the period when the 787 and A350 Original competed, both aircraft were in their launch phases, [***]. The failure of this effort resulted not from 787 pricing, but from Airbus’ inability to design a compelling product offering.

995. Finally, as we explained in Section C.6, if there has been any suppression of A350 Original or A350 XWB prices, factors other than subsidization are the cause, and not the U.S. programs identified by the EC. In short, the EC’s assertion that subsidization of the 787 caused price suppression to the A350 Original or A350 XWB is contrary to the evidence. The Panel should accordingly reject this element of the EC’s claims.

¹²³⁸ ECFWS, para. 1417.

¹²³⁹ ECFWS, para. 1417.

¹²⁴⁰ ECFWS, para. 1410 (“original A350 fell short of the 787 in terms of technological advancements and delivery schedule.”).

8. The programs identified by the EC did not cause lost sales of the A330 or the A350 Original.

996. The EC provides no credible support for the proposition that the alleged subsidies resulted in lost sales of the A330 or A350 Original. (The EC makes no claim of lost sales of the A350 XWB.) The only additional support it offers for these claims is a series of quotations from its lost sales annex. In fact, the evidence the submitted by the EC contradicts those assertions, and evidence contained in the U.S. HSBI Annex further proves that the alleged subsidization did not cause lost sales. The EC makes no arguments in addition to its summary of the lost sales claims. It simply incorporates its analysis of price suppression and asserts that “the evidence regarding the nature, magnitude and price effects of the 787 equally applies to the EC’s lost sales claims.”¹²⁴¹ It takes a similar short cut with regard to its assertions regarding conditions of competition. In the same vein, the United States observes that its rebuttal of those arguments, set out in Sections C.3 through C.6, fully demonstrates that the EC has not set out a *prima facie* case in this regard. This subsection will, therefore, focus on the arguments the EC raises that are unique to its lost sales claim.

997. First, the EC asserts that the A330 and A350 Original lost sales because customers preferred the 787’s advanced technological features.¹²⁴² That is true, to a degree.¹²⁴³ However, the EC fails to give sufficient credit to the fact that those customers knew exactly what features the 787 had, [***]. Design uncertainty was a serious handicap to the A350 Original throughout this period.¹²⁴⁴ The key point, however, is that the 787 features were not the result of the alleged subsidies. Those features were the result of product development investments made by Boeing and its suppliers, building on the general state of knowledge in the global aerospace community. Airbus itself would have been able to offer a comparable aircraft if it had started at the same time as Boeing. In fact, Airbus believes it achieved just such a result with the A350 XWB.

998. Second, the EC asserts that the A350 Original lost sales because customers were able to obtain the 787 earlier.¹²⁴⁵ Again, this is undoubtedly true. And, again, it is not the result of subsidies. As we described above, the 787 was available earlier because BCA started earlier and focused its attention on that one project, while Airbus chose to focus on the A380. Thus, the instances in which early availability was decisive are not lost sales as a result of subsidies. They are lost sales because of Airbus tardiness, which has nothing to do with alleged subsidies.

999. Finally, the EC asserts that Airbus lost a number of sales because of “the exceptionally *low price* offered by Boeing for its 787 LCA” which “would not have been possible without the

¹²⁴¹ ECFWS, para. 1428.

¹²⁴² ECFWS, paras. 1430-1431.

¹²⁴³ U.S. Campaign Annex, para. 22.

¹²⁴⁴ U.S. Campaign Annex, para. 33.

¹²⁴⁵ ECFWS, paras. 1432-1433.

various US subsidies.”¹²⁴⁶ The EC pays particular attention to five campaigns referenced in the EC Campaign Annex, but once again, the evidence does not support the contention that the 787 price was decisive in Airbus’ loss of these sales:

- In Campaign 2¹²⁴⁷ (II.A.1 of the EC 787 Campaign Annex), price was not dispositive because [***]¹²⁴⁸
- In Campaign 6 (II.B.1 of the EC 787 Campaign Annex), [***].¹²⁴⁹
- Campaign 5 (II.B.2 of the EC 787 Campaign Annex), [***]¹²⁵⁰ [***]¹²⁵¹ [***]¹²⁵² [***].
- For Campaign 8 (II.B.4 of the EC 787 Campaign Annex), all of the relevant information is HSBI.
- In Campaign 4 (II.B.7.a of the EC 787 Campaign Annex), the customer in question [***]¹²⁵³ [***].

The U.S. Campaign Annex contains additional information and analysis demonstrating errors in the EC contention that pricing on the 787 was responsible for lost sales to A350 Original at each of these campaigns.

1000. At the end of its analysis, the EC asserts that the alleged subsidies caused the supposed lost sales because the difference between Boeing and Airbus final offers in certain campaigns were “less than the magnitude or estimated price effects.”¹²⁵⁴ This reasoning contains several flaws. *First*, as shown above, the EC’s attempts to quantify the magnitude and estimated price effects greatly overstate the benefit of the U.S. programs, especially with regard to the per-aircraft calculations, and cannot form the basis for any meaningful comparison with the difference between the companies’ final offers. *Second*, the EC has provided no basis to conclude that in the

¹²⁴⁶ ECFWS, para. 1434.

¹²⁴⁷ We have assigned numbers to the campaigns discussed in the EC Campaign Annex to avoid cumbersome citations, like those used by the EC, to “the campaign described in Section II.B.2 of Annex D.” The U.S. Campaign Annex contains a concordance of Campaign numbers and the EC references.

¹²⁴⁸ U.S. Campaign Annex, paras. 23-25.

¹²⁴⁹ U.S. Campaign Annex, para. 56.

¹²⁵⁰ U.S. Campaign Annex, para. 42-43.

¹²⁵¹ U.S. Campaign Annex, para. 45, third bullet.

¹²⁵² U.S. Campaign Annex, para. 46, second bullet.

¹²⁵³ U.S. Campaign Annex, para. 36.

¹²⁵⁴ ECFWS, para. 1435.

absence of the alleged subsidization, the price offered by Boeing would increase by the margin of subsidization – even if that figure were calculated correctly.¹²⁵⁵ *Third*, the EC admits that buyers of large civil aircraft consider a number of factors in their purchasing decision. It has provided no basis to conclude that the price increases predicted under the EC calculation (which are themselves exaggerated) would change the result of any of the cited campaigns. Therefore, the EC's comparison of its calculated subsidy magnitudes and "price effects" of the subsidies with differences between final offers does not support the conclusion that those sales would have been taken by Airbus.

1001. In conclusion, the EC's assertion that subsidization of the 787 caused lost sales of the A350 Original or A350 XWB is contrary to the evidence. The Panel should accordingly reject this element of the EC's claims.

9. *The programs identified by the EC did not displace or impede imports of A330 or A350 Original into the United States or exports of those aircraft to a third country market.*

1002. The EC's arguments regarding displacement and impedance of exports of A330 and A350 Original to third countries and imports into the United States consist of little more than a few tables and accompanying text that act essentially as captions. (The EC makes no displacement/impedance allegation with regard to A350 XWB.) But even this short discussion is riddled with errors.

1003. The central flaw is that the EC, in effect, addresses the wrong issue. It presents its claims in terms of "displacement or impedance" of *orders* for aircraft *by companies headquartered in the country subject to the allegations*. As we explained in Section B.10, however, Article 6.3(a) and (b) define serious prejudice for this purpose in terms of displacement or impedance of, respectively, "imports . . . into the market of the subsidizing Member" and "exports . . . from a third country market." Thus, there must be an import or export – the movement of a physical product across a border – to trigger Article 6.3(a) or (b). First, although orders may lead to imports or exports, they are not the same as imports or exports. An order does not necessarily result in an import or export, as the customer may cancel. Second, an order by a company headquartered in a country does not equate with an import or export into that country. For example, an international airline or leasing company could decide to have the aircraft delivered to a different country altogether, in which case the order would never become an import or export, in the country of the headquarters. Therefore, an analysis of displacement or impedance of *orders* simply does not address the standard set out in Article 6.3(a) or (b).

1004. Nonetheless, the EC presents all of the data in support of its claims regarding displacement and impedance in terms of *orders* each year from 2000. It presents data on neither imports and exports nor deliveries, which are the best proxy for imports and exports in this

¹²⁵⁵ ECFWS, para. 1321.

industry. The EC's failure to submit the relevant information by itself means that the EC has failed to meet its burden of proof.

1005. The EC also fails in its arguments on displacement and impedance in third-country markets. The EC presents each individual country as a separate market for purposes of evaluating whether there was displacement or impedance. But, except for the United States, the 2000-2006 time period simply did not provide enough data to reach any conclusion about how deliveries (or orders, assuming that they were relevant) developed in those countries. For most of the supposed "markets," there is only one transaction for the entire seven year period covered by the EC information. That is far too little information to reach any conclusion as to whether imports or exports have suffered displacement or impedance.

1006. In fact, use of the proper data – deliveries, rather than orders – reveals that there has been no displacement or impedance in the United States or in all third country markets together, the EC's alternative to country-by-country transactions:

Deliveries in the U.S. market

	767 deliveries	A330 deliveries	767 share	A330 share
2000	29	6	83%	17%
2001	24	3	89%	11%
2002	17	0	100%	0%
2003	15	5	75%	25%
2004	0	10	0%	100%
2005	0	3	0%	100%
2006	0	6	0%	100%

Source: Deliveries of 767 and A330, 2009-2006 (Exhibit US-371)

Deliveries in the all third countries combined

	767 deliveries	A330 deliveries	767 share	A330 share
2000	6	26	19%	81%
2001	14	23	38%	62%
2002	18	20	47%	53%
2003	8	21	28%	72%
2004	8	25	24%	76%
2005	8	42	16%	84%
2006	10	46	18%	82%

Source: Deliveries of 767 and A330, 2009-2006 (Exhibit US-371)

As the 787 was not available during the 2000-2006 period for which the EC presents displacement or impedance data, there were no imports or exports and, therefore, no displacement or impedance. The only trend that the data reveal is the A330's marginalization of the 767, which is certainly no grounds for a displacement or impedance claim regarding the A330.

1007. The EC also cites to all of the arguments made with regard to price suppression and lost sales, and incorporates them into the section, *mutatis mutandis*. In response, we request that the Panel take the explanation we set out in Section C.6 and C.7 as rebuttal to the EC's claims.

1008. As the EC has neglected to submit the information on imports/exports or deliveries that is relevant to evaluate its claim, the Panel has no basis on which to decide that displacement or impedance has occurred. For this reason, and the other reasons set forth in this subsection, the EC has failed to make a *prima facie* case. The Panel should accordingly reject the EC's arguments in this regard.

10. *The programs identified by the EC do not cause a threat of serious prejudice to EC interests with regard to the A330 or A350 XWB-800.*

1009. The EC's threat of serious prejudice arguments do nothing more than repeat the erroneous assertions made with regard to price suppression, lost sales, and displacement/impedance of imports and exports for 2004-2006, and claim that they demonstrate a threat of serious prejudice. As we explain in Section B.11, threat of serious prejudice exists only if there are multiple indications that a "bad outcome," namely, serious prejudice, is "imminent." Threat of serious prejudice is usually only relevant if a complaining party has failed to show an existing serious prejudice, but has shown that the existing non-prejudicial situation is likely to evolve into a state of serious prejudice.

1010. The EC has failed to carry this burden. First, the entirety of the EC’s threat of serious prejudice argument consists of unsupported assertions that the current situation for Airbus is going to “continue” in the future.¹²⁵⁶ However, as we have shown, the alleged subsidization of the 787 did not cause serious prejudice to the EC’s interests over the 2004-2006 period. In the absence of any new information – and the EC presents none – the continuation of the existing situation is likely to lead to more of the same. Thus, the EC’s arguments on their face indicate that the alleged subsidies pose no threat of serious prejudice.

1011. Second, the EC has provided absolutely no support for its assertion that the current situation, which reflects no imminent threat, is likely to “continue.” In fact, every indication is that it is likely to *improve*. Airbus CEO Louis Gallois recently stated that “{w}e are on the way to recovery, with our new organisation, the launch of the (long-haul) A350, the perspective of delivering the A380 to Singapore Airlines and the first concrete savings of Power8.”¹²⁵⁷ Airbus has told investors that the Power8 plan “will make Airbus better prepared to face the challenge of the US Dollar weakness, increased competitive pressure, the financial burden related to the A380 delays, as well as to meet its other future investment needs.”¹²⁵⁸ And, the company has already announced firm orders for 154 A350 XWBs.¹²⁵⁹ Therefore, while Airbus continues to face challenges, the situation is plainly improving.

1012. Third, the EC’s lost sales allegations and displacement or impedance claims for the 2004-2006 period covered only the A330 and A350 Original – not the A350 XWB.¹²⁶⁰ But, the EC has provided no reason to believe that conditions related to sales of the A350 Original would “continue” with respect to the A350 XWB. In fact, the two are very different aircraft. The A350 Original was “{b}ased upon the successful A330 platform,” and carried the same number of passengers as the A330 – between 250 and 290.¹²⁶¹ The A350 XWB carries between 270 and 350 passengers, and is an entirely new design made of 60 percent new materials.¹²⁶² Therefore, the EC assertions that its analyses of the the conditions in 2004-2006 “apply, *mutatis mutandis*, to demonstrating that the US subsidies cause a threat of significant lost sales”¹²⁶³ or a “threat of

¹²⁵⁶ ECFWS, paras. 1449-1451.

¹²⁵⁷ “Airbus head sees brighter skies ahead,” *AFP News brief* (June 5, 2007) (Exhibit US-331).

¹²⁵⁸ Airbus, *aero-notes*, p. 6 (May 2007) (Exhibit US-328).

¹²⁵⁹ Airbus Press Release, “Renewed momentum for Airbus’ leading products, and Paris Air Show with 425 firm orders” (June 22, 2007) (Exhibit US-377).

¹²⁶⁰ ECFWS, paras. 1426 and 1439.

¹²⁶¹ “A350: Airbus’s counter-attack,” *Flight International* (25 January 2005) (Exhibit US-294).

¹²⁶² Airbus, “A family concept with all the extras, <http://www.airbus.com/en/aircraftfamilies/a350/> (last visited June 14, 2007) (Exhibit US-330).

¹²⁶³ ECFWS, para. 1463.

displacement and impedance”¹²⁶⁴ with regard to A350 XWB are simply incorrect. Those sections contain no argument with regard to the A350 XWB, and the arguments regarding the A350 Original cannot be made relevant to the A350 XWB simply by reciting “*mutatis mutandis*.”

1013. This general refutation of the EC’s threat of serious prejudice arguments, along with rebuttals in previous sections of arguments that the EC incorporates “*mutatis mutandis*” in its threat section, demonstrate that the EC has failed to make a *prima facie* case. The Panel should accordingly reject the EC’s claims in this regard. The following sections address a limited number of points specific to the individual allegations of serious prejudice.

- a. *The EC has not made a prima facie case that the alleged subsidization causes a threat of serious prejudice to future orders of A330 and A350 XWB.*

1014. The only claim the EC makes with regard to future *orders* of A330 and A350 XWB is that they will undergo significant price suppression. It does not claim a threat of lost sales or displacement/impedance with regard to future orders. The EC’s arguments rest almost exclusively on the notion that the continuation of “technology effects” and “price effects” from the 2006-2008 period poses a threat of price suppression. We demonstrated in the preceding five paragraphs why that is not the case, and will not repeat that analysis here. The EC does make a few additional, although equally unconvincing, arguments.

1015. The EC also asserts that conditions of competition will “continue to give Boeing the ability and incentive to use its subsidy benefits to price down its 787 family LCA.”¹²⁶⁵ We showed in B.7 that Boeing does not have such an incentive. In addition, in the future, the conditions of competition are improving in Airbus’s favor as the A350 XWB moves closer to market.

1016. The EC claims that the magnitude of the alleged subsidies is “large” both in absolute and *ad valorem* terms. As we showed in Sections B.5 and B.6.b, the EC greatly overstated the magnitude and price effect figures, both on an absolute and per-aircraft basis. Therefore, the EC’s assertions regarding magnitude do not support its claim that the alleged subsidies cause a threat of significant price suppression. In light of this and the other failings we have noted, it is clear that the EC has not made a *prima facie* case of threat of price suppression on future orders.

- b. *The EC has not made a prima facie case that alleged subsidization causes a threat of serious prejudice to future deliveries of A330 and A350 XWB.*

1017. The remainder of the EC’s threat of serious prejudice argument consists of a series of conditional claims, which it asks the Panel to address only in the event of a finding “that 787,

¹²⁶⁴ ECFWS, para. 1466.

¹²⁶⁵ ECFWS, para. 1451.

A330 and original A350 orders booked during the 2004-2006 period cannot serve as the basis for the EC's present serious prejudice claims.¹²⁶⁶ It frames these claims in terms of the same arguments it raised with regard to orders of the A330 and A350 XWB, even going so far as to incorporate those arguments *mutatis mutandis*. Accordingly, the Panel should look to our arguments in response to the incorporated arguments as our rebuttal to paragraphs 1455-1468 of the EC submission.

1018. A few elements of the EC argument warrant further comment. First, as we noted, the EC presents all of the threat claims as conditional arguments, to be addressed only if the Panel rejects its view that “orders booked during the 2004-2006 period cannot be used.”¹²⁶⁷ The United States is of the view that orders are the proper basis for evaluating price suppression and lost sales. Therefore, we agree that it is not necessary for the Panel to address the EC's threat of price suppression and threat of significant lost sales arguments. Should the Panel nonetheless decide to address these claims, the observations at the beginning of Section C establish that the alleged subsidization is not the cause of any such threat.

1019. Most of the substance of the EC's argument comes with its assertion that the points it raised in its arguments regarding displacement and impedance of A330 and A350 Original (the claim does not include A350 XWB) in the 2004-2006 period “apply, *mutatis mutandis*, to demonstrating that the US subsidies cause a threat of displacement and impedance.”¹²⁶⁸ However, even the magic of *mutatis mutandis* cannot make the legal claims regarding A350 Original applicable to A350 XWB. As we have noted before, A350 Original was based on the A330 fuselage, was limited in its use of new technology, and was a smaller aircraft than A350 XWB. Customers roundly criticized the A350 Original. None of this holds true for the A350 XWB, which is an entirely new design, with a wider fuselage and 60 percent new materials. Customers have been generally supportive of the design. Moreover, with 232 orders and commitments in just six months since its launch (a far greater amount than the 787 collected in its first six months), the A350 XWB shows no signs of suffering the poor market performance of the A350 Original.¹²⁶⁹ The EC has cited no relevant evidence in support of its claims of displacement or impedance of imports or exports of A350 XWB into the United States or a third-country. Therefore, the Panel should find that the EC has not made a *prima facie* case with regard to those claims.

1020. With regard to the EC's *mutatis mutandis* arguments regarding the threat of displacement or impedance for the A330, we rebutted those arguments in Section C.8, and direct the Panel to our analysis in that section.

¹²⁶⁶ ECFWS, para. 1455.

¹²⁶⁷ ECFWS, paras. 1459 and 1463.

¹²⁶⁸ ECFWS, para. 1466.

¹²⁶⁹ Airbus Press Release, “Renewed momentum for Airbus' leading products, and Paris Air Show with 425 firm orders” (June 22, 2007) (Exhibit US-377).

1021. Finally, the EC presents data on expected future deliveries of A330s,¹²⁷⁰ which actually are relevant to an evaluation of threat of displacement or impedance of imports and exports. However, the data are either insufficient to substantively support the EC claim, or actually support the U.S. claim.

1022. [***]¹²⁷¹ [***]¹²⁷²[***] Most of them consist of a single transaction for three or fewer mid-sized aircraft. Airbus has its own portfolio of tiny countries in which it has a 100 percent share of sales of a particular aircraft. Given that large civil aircraft production is a duopoly and that there is a plethora of small, single-country airlines, one supplier having 100 percent of sales of one aircraft to a few small airlines is statistically meaningless, and insufficient to demonstrate the existence of “serious” prejudice.

1023. Therefore, the EC has failed to demonstrate the existence of a threat of displacement or impedance of imports of A330 or A350 XWB into the U.S. market or of exports of those aircraft to a third country market.

D. Alleged Subsidies to the 737 Did Not Cause Serious Prejudice to EC Interests With Regard to the A320

1024. The EC’s claim that the alleged subsidies to the 737 cause serious prejudice to the A320 rests on subsidy allegations that find no support in either law or fact, and a variety of assumptions that are contrary to fact and methodologies at odds with sound economic practice. We have already shown that all aspects of the EC claim are incorrect. In addition, the EC’s assertion of serious prejudice through Boeing’s “aggressive pricing” of the 737 is particularly misplaced, as Airbus has systematically pursued a policy in recent years of using price discounting to capture key Boeing 737 customers in order to expand its market share.

1025. The market share numbers tell the basic story. In 1999, Boeing accounted for 66 percent of single-aisle large civil aircraft production. By 2006, its share of the market had fallen to 47 percent. Boeing lost a series of major 737 accounts to Airbus between 2002 and 2004 (including easyJet, Air Berlin, and AirAsia) due to lower prices from Airbus. [***] For Airbus to allege that Boeing suppressed Airbus A320 family prices, captured market share from Airbus in the single-aisle market segment, or otherwise took sales away from Airbus because of its pricing inverts the facts.

1026. The EC has tried to draw attention from the chain of events that has led prevailing prices for its A320 family to their current level by focusing on the period 2004-2006 and asserting that

¹²⁷⁰ Although Airbus describes the table as covering 200-300 seat large civil aircraft in general, A330 will be the only Airbus aircraft in that category at that time.

¹²⁷¹ ECFWS, para. 1467.

¹²⁷² The EC refers to this country as [***]. However, there is no such section in Annex D. For purposes of this analysis, we have assumed that the EC’s references to Section III were meant to refer to Section II.

Boeing initiated a “price war” at the end of 2004. This is not true. To understand what actually happened, it is necessary to begin with Airbus’ decision to begin to use price discounting to capture key Boeing 737 customers as early as 1999.

1. Airbus’ decision to undercut Boeing at key low-cost carriers is responsible for low prices for the A320.

1027. In the 1980s and early 1990s, Airbus succeeded in placing A320s with major Boeing customers such as United Airlines, U.S. Airways, and British Airways.¹²⁷³ Orders with low-cost carriers, however, had proved elusive for Airbus. The low-cost model pioneered by Southwest Airlines was predicated on operating a single aircraft type that could sustain high operation rates and quick turnaround times at airports. With its well-publicized success, Southwest proved that the 737 was a reliable aircraft for profitable, low-cost fleet operations, and airlines following Southwest’s lead chose the 737. Because low-cost carriers were becoming the fast growing part of the airline industry (and were relatively less vulnerable to industry downturns than traditional large network carriers) their preference for the 737 was a significant advantage for Boeing.

1028. Airbus therefore sought to break into the low-cost carrier customer segment, but it could only do so by offering its single-aisle A320 aircraft at prices that could tempt airlines to move away from the 737/Southwest model. When JetBlue, a start-up low-cost carrier in the United States, sought to make an exceptionally large initial order of new aircraft in 1999, it “fully expected to choose the 737” until the Airbus price “got {the airline’s} attention.”¹²⁷⁴ JetBlue selected the A320 and remained Airbus’ only significant low-cost customer until the economic downturn that began in 2001.¹²⁷⁵

1029. During the downturn, many low-cost carriers fared better than large network carriers and became the prime source of single-aisle aircraft orders. Anticipating pressure for large discounts, Boeing Chairman Phil Condit explained the company’s conservative approach to pricing:

Because of the industry downturn, Boeing and Airbus are under pressure from airlines to offer substantial discounts on planes. Condit said yesterday that Boeing is holding the line on pricing. “We have been very, very careful on the pricing

¹²⁷³ Laurence Zuckerman, “New Low-Fare Airline to Buy Airbus Industrie Jets,” *N.Y. Times* (Apr. 21, 1999) (Exhibit US-333).

¹²⁷⁴ Laurence Zuckerman, “New Low-Fare Airline to Buy Airbus Industrie Jets,” *N.Y. Times* (Apr. 21, 1999) (quoting JetBlue CEO David Neeleman) (Exhibit US-333).

¹²⁷⁵ James Wallace, “Merger of European discount airlines could help 737,” *Seattle Post-Intelligencer* (May 4, 2002) (“The only Airbus success with a discount carrier so far has been with JetBlue in {the United States}, which operates the A320 family of jets.”) (Exhibit US-334).

side,” he told {an} analyst. “We want to run a profitable business. Obviously in a downturn there will be pressure.”¹²⁷⁶

1030. Airbus, on the other hand, saw an opportunity to build on its success at JetBlue, as Airbus sales chief John Leahy explained: “We are pretty well positioned in the U.S. ... but I would like to have a bigger one (low fare airline) in Europe.”¹²⁷⁷ In Europe, the biggest low-cost carriers were Ryanair, based in Ireland, and easyJet, based in the United Kingdom. These two airlines would place the largest single-aisle large civil aircraft orders in 2002.

1031. **Ryanair** was Airbus’ first target. Ryanair had an all-Boeing fleet, having ordered 28 737-800s before the campaign began. The logical choice for additional aircraft was the 737.¹²⁷⁸ Airbus sought to capture Ryanair’s business the only way it could: by significantly undercutting Boeing’s prices. Ultimately, Ryanair ordered 100 737-800s in January 2002,¹²⁷⁹ but Boeing was able to retain the Irish airline’s business [***]. In fact, Airbus had driven prices so low that Ryanair’s large order, which represented more than 63 percent of all Boeing 737 orders in 2002, caused [***]¹²⁸⁰ While this appeared to be unusually low pricing at the time, it only foreshadowed what was to come. Ryanair would be the last major Boeing single-aisle victory for some time, as Airbus drove prices in subsequent campaigns to levels that made little business sense to Boeing.

1032. Having failed to switch Ryanair in January 2002, Airbus recognized that significant price undercutting would be necessary to place A320s with **easyJet** later that year. As an industry analyst noted during the campaign, easyJet would require steep discounts if it were to reverse the course it had set by ordering 737s: “EasyJet has followed the pattern of three out of the four big discount carriers who prefer Boeing Unless Airbus makes EasyJet an extremely competitive offer, Airbus will have a hard time unseating the 737.”¹²⁸¹ In the end, Airbus achieved its goal of a major European low-cost breakthrough by offering easyJet pricing dramatically below anything it could obtain from Boeing. As easyJet CEO Ray Webster explained:

¹²⁷⁶ James Wallace, “Boeing wins 100-plane order from Europe,” *Seattle Post-Intelligencer* (Jan. 24, 2002) (Exhibit US-335).

¹²⁷⁷ James Wallace, “Low-fare air carriers sweeping the industry,” *Seattle Post-Intelligencer* (Sept. 3, 2002) (Exhibit US-378).

¹²⁷⁸ James Wallace, “Boeing wins 100-plane order from Europe,” *Seattle Post-Intelligencer* (Jan. 24, 2002) (“The airline’s chief executive, Michael O’Leary, said the deal ‘will allow Ryanair and Boeing to revolutionize short-haul travel all over Europe in the same way that Southwest and Boeing have in the United States.’”) (Exhibit US-335).

¹²⁷⁹ Ryanair Press Release, *Ryanair Orders up to 150 New Boeing 737-800 Aircraft, New Capacity Will Allow Ryanair to Grow to 40 Million Passengers and Become Europe’s Biggest International Scheduled Carrier* (Jan. 24, 2002) (Exhibit US-336).

¹²⁸⁰ Boeing Average 737 Order Revenue Chart (Exhibit US-337).

¹²⁸¹ James Wallace, “Merger of European discount airlines could help 737,” *Seattle Post-Intelligencer* (May 4, 2002) (quoting Teal Group aviation analyst Richard Aboulafia) (Exhibit US-334).

- “The equation is Boeing at a higher price vs. Airbus for a better price and higher risk.”¹²⁸² He said that “it surprised all of us to see just how aggressive Airbus was in the final round of sealed bids.”¹²⁸³ Webster noted that speculation that Airbus won the sale by offering a 60 percent discount off list prices was “a bit ambitious, but not far off. . . . I’ve been buying aircraft for 20 years and I’ve never seen anything like it.”¹²⁸⁴
- “Stelios Haji-Ioannou, founder of easyJet who is to leave as chairman next month, said the price difference between the bids left the company with no choice: ‘The difference was so substantial we would have been in breach of our fiduciary duty; it would have been an offence to buy Boeing.’”¹²⁸⁵
- Based on the pricing and a variety of guarantees and additional services offered by Airbus, easy Jet concluded that “the offer received from Airbus . . . was significantly better value than the offer received from Boeing.”¹²⁸⁶ Indeed, easyJet estimated that the per-seat cost of the Airbus A319 was about one-third lower than the per-seat cost of the Boeing 737 it had purchased just two years earlier.¹²⁸⁷ Based on this low price, easyJet calculated that the deal would reduce its overall operating costs by 10 percent.¹²⁸⁸
- As an industry publication noted at the time: “{T}he offer made by Airbus had to be sufficiently attractive to prise easyJet away from Boeing. A near equal bid between Airbus and Boeing would have inevitably resulted in a decision favoring

¹²⁸² James Wallace, “Boeing loses EasyJet order,” *Seattle Post-Intelligencer* (Oct. 14, 2002) (Exhibit US-338).

¹²⁸³ easyJet CEO Ray Webster, quoted in Kevin Done, *Airbus Beats Boeing in War over Big Order*, *Financial Times* (Oct. 15, 2002) (Exhibit US-339).

¹²⁸⁴ Colin Baker, “Easy Does It,” *Airline Business* (Dec. 1, 2002) (Exhibit US-340).

¹²⁸⁵ Stelios Haji-Ioannou (chairman of easyJet), quoted in Kevin Done, “Airbus Beats Boeing in War over Big Order,” *Financial Times* (Oct. 15, 2002), p. 21 (Exhibit US-339).

¹²⁸⁶ easyJet, Proposed Purchase of Airbus Aircraft and Notice of Extraordinary General Meeting (Feb. 25, 2003), pp. 3-4 (Exhibit US-341). The “residual value risk” that Airbus assumed with regard to the Boeing aircraft refers to the possibility that easyJet would not be able to dispose of its existing Boeing aircraft at an acceptable price; Airbus agreed to purchase the used Boeing aircraft from easyJet, if necessary, at a guaranteed price. “Technical dispatch reliability” refers to the proportion of scheduled flights that are delayed because of repair, maintenance, or other technical difficulties.

¹²⁸⁷ easyJet, Proposed Purchase of Airbus Aircraft and Notice of Extraordinary General Meeting (Feb. 25, 2003), p. 2. (Exhibit US-341).

¹²⁸⁸ easyJet, Proposed Purchase of Airbus Aircraft and Notice of Extraordinary General Meeting (Feb. 25, 2003), p. 2. (Exhibit US-341).

the latter. Clear water between the two manufacturers was necessary to tempt easyJet away from the traditional source of equipment for low-cost carriers.”¹²⁸⁹

1033. Ryanair CEO Michael O’Leary responded to the easyJet order by saying that “it was ‘insane’ for easyJet to split its fleet by ordering Airbus planes, thus breaking with the proven Southwest model.”¹²⁹⁰ Yet, in 2004, Airbus would use price to convince additional Boeing operators to do the same.

1034. After the easyJet sale, Airbus approached **Air Berlin**, another low-cost carrier with an all-Boeing fleet, and again sought to induce a switch away from Boeing 737s. This resulted in Airbus placing an 70 A320 firm orders with Air Berlin and its Austrian affiliate, NIKI, in November 2004.¹²⁹¹ Soon thereafter, 737 operator **AirAsia** ordered 60 A320s from Airbus. At Air Berlin and AirAsia, Airbus met the challenge of Boeing incumbency in the same way it did at easyJet: “According to people familiar with the deals, Airbus trumped Boeing by offering steep discounts and other financial guarantees that {Boeing} was unwilling to match.”¹²⁹² With these orders, Boeing’s decline in the single-aisle segment became clear:

- “Only a few years ago, Boeing’s {737} dominated the low-fare market segment on both sides of the Atlantic. No more.”¹²⁹³
- “John Leahy, chief commercial officer at Airbus, told Bloomberg News in a telephone interview yesterday that the Airbus A320 had supplanted Boeing’s 737 as the standard airplane for low-cost carriers. About 80 percent of all new orders placed by low-cost operators over the past two years have gone to Airbus, he said.”¹²⁹⁴

¹²⁸⁹ Stiff Competition Sees A319 Price to Fall to \$25 Million, Aircraft Value News (Oct. 21, 2002) (Exhibit US-342).

¹²⁹⁰ James Wallace, “Ryanair chief takes potshots at Airbus,” *Seattle Post-Intelligencer* (Nov. 16, 2002) (Exhibit US-343).

¹²⁹¹ Airbus Press Release, “Air Berlin and Niki Luftfahrt to acquire up to 110 Airbus A320 aircraft” (Nov. 4, 2004) (Exhibit US-344); James Wallace, “Boeing loses huge Air Berlin jet order to Airbus,” *Seattle Post-Intelligencer* (Nov. 5, 2004) (“{The Air Berlin A320 order} is especially painful for Boeing because Air Berlin, Germany’s second-biggest airline, has built a successful operation around a fleet of more than 40 Boeing 737s and had never ordered Airbus jets.”) (Exhibit US-345).

¹²⁹² “Airbus to Beat Boeing Again,” *Wall Street Journal* (Nov. 8, 2004) (Exhibit US-346).

¹²⁹³ James Wallace, “Boeing loses huge Air Berlin jet order to Airbus,” *Seattle Post-Intelligencer* (Nov. 5, 2004) (Exhibit US-345).

¹²⁹⁴ James Wallace, “Boeing loses huge Air Berlin jet order to Airbus,” *Seattle Post-Intelligencer* (Nov. 5, 2004) (Exhibit US-345).

1035. Indeed, Airbus' success in switching low cost-carriers from Boeing enabled it to increase its share of single aisle orders by 50 percent, from a 46 percent share in 2000 to a record 68 percent share in 2004.¹²⁹⁵ Consistent with a pattern of undercutting, Airbus' [***].¹²⁹⁶

1036. Meanwhile, [***]¹²⁹⁷ The impact on Boeing for holding the line on price in 2004, however, was to see its share of single-aisle orders fall to 33 percent.

1037. The effects of Airbus' pricing strategy spread through the market. In 2005, Ryanair used the Airbus pricing at large accounts such as easyJet, Air Berlin, and AirAsia as leverage to open new "intensive negotiations" with Boeing and Airbus, in which Boeing was forced to make additional price concessions on the 103 undelivered B737s that Ryanair ordered in 2002 and 2003 in order to keep Ryanair as a customer.¹²⁹⁸ After its CEO declared in 2002 that "{w}e are and will always be a Boeing customer,"¹²⁹⁹ Ryanair could have been expected to make follow-on orders from Boeing as a matter of course in a stable pricing environment. However, as Ryanair explained to its shareholders, in the new "favourable market conditions for significant buyers of new aircraft":

Boeing has granted the Company certain price concessions as part of the new contract to purchase the Boeing 737-800s under the new and previous contracts. . . . As a result the "effective price" (the purchase price of the aircraft net of discounts received from Boeing) of each aircraft will be significantly below the basic price mentioned above and the net price agreed under the 2002 Boeing Contract. The effective price applies to all aircraft due for delivery from January 2005 including all 89 outstanding aircraft deliveries under the 2002 and 2003 Boeing Contracts. A total of 38 aircraft have previously been delivered pursuant to these contract for which no further concessions will be granted. A further 14 aircraft have been delivered to date in 2005, all of which have benefitted from the effective price.¹³⁰⁰

¹²⁹⁵ Airclaims CASE database, data query as of Jan. 18, 2007.

¹²⁹⁶ ECFWS, para. 1495.

¹²⁹⁷ Boeing Indexed Average 737 Order Revenue Chart (Exhibit US-337).

¹²⁹⁸ Ryanair Holdings plc, Notice of Extraordinary General Meeting: Proposed Purchase of up to 140 Boeing "Next Generation" 737-800 Aircraft, pp. 7-8 (Apr. 22, 2005) (Exhibit US-347).

¹²⁹⁹ James Wallace, "Ryanair chief takes potshots at Airbus," *Seattle Post-Intelligencer* (Nov. 16, 2002) (Exhibit US-343).

¹³⁰⁰ Ryanair Holdings plc, Notice of Extraordinary General Meeting: Proposed Purchase of up to 140 Boeing "Next Generation" 737-800 Aircraft, pp. 7-8 (Apr. 22, 2005) (Exhibit US-347).

1038. In sum, Airbus drove the market price for single-aisle aircraft to a level significantly below the prices Boeing had been willing to offer. The consequence was that loyal Boeing customers demanded adjustment of their 737 pricing to reflect prevailing market conditions. Faced with the prospect of becoming a permanent second tier supplier of single-aisle aircraft, Boeing [***] That Boeing’s decision was a reaction to Airbus’ aggressive pricing, and not, as the EC asserts, the initiation of a price war, is well understood in the industry:

“Boeing has changed its attitude, {ILFC Chairman} Udvar-Hazy said. ‘It took Airbus to beat them. That created an earthquake in Seattle. It got Boeing to roll up its sleeves and become more in tune with the marketplace.’¹³⁰¹

2. *The nature of the alleged subsidies did not give them any effect of the price of the 737.*

1039. The nature of the programs that allegedly conferred subsidies and the way Boeing used them prevented those programs from having the price effects asserted by the EC, and the EC has failed to meet its burden of proof to show such effects. The Cabral Report, which underpins the EC’s price effect analysis, rests on assumptions that are contrary to fact and dubious methodologies at odds with sound economic practice. The EC’s attempts to lay out a mathematical connection between the subsidies and the supposed serious prejudice are riddled with errors. The calculations of the “magnitude” of subsidies rely on highly overstated valuations of the benefit conferred by U.S. government programs. The EC’s effort to state that figure on a per-aircraft basis magnify the error still further, as the calculation relies on assumptions that are both internally inconsistent and out of touch with the realities of the large civil aircraft market. Similarly, the EC’s conversion of the results of the Cabral Report into a numerical per-aircraft “price effect” adds to the intrinsic errors of those results by allocating them to particular models and derivatives without any explanation or evidentiary support. In fact, an objective analysis of the nature of the programs at issue shows they had no effect on prices at all.

a. *The nature of the programs alleged to have conferred subsidies makes them unlikely to affect the price of the 737.*

1040. The EC argues that the alleged subsidies affect 737 pricing by acting as incremental non-operating cash flow to Boeing. As demonstrated below, the nature of the alleged subsidies is such that a given amount of subsidization is not equivalent to cash and would not affect Boeing’s pricing in particular sales campaigns. Moreover, the EC’s price effects theory fails because, by resting on the assertion that the bulk of the alleged subsidies (which the EC describes as “development subsidies”) are simply “fungible” cash to Boeing, it treats the nature of the alleged subsidies as irrelevant. The panel in *US – Upland Cotton* rejected a similar claim in the context

¹³⁰¹ James Wallace, “Aggressive sales style helps Boeing soar past Airbus in new orders,” *Seattle Post-Intelligencer* (June 13, 2005) (Exhibit US-348).

of a price suppression claim, even while acknowledging that the challenged non-price contingent measures provided “higher cash flow and higher wealth” to cotton producers.¹³⁰²

1041. As we noted in Section B.3.b, the facts in this dispute require the division of the alleged subsidies into four groups for analysis of their effects. All of the general comments we make in Sections B.6 and B.7 apply specifically to the effect of the programs identified by the EC on the 737. This section provides additional comments applicable specifically to the EC’s assertions regarding the 737.

1042. **Tax reduction programs.** This group includes FSC/ETI benefits and the B&O tax rate reductions by the state of Washington and City of Everett. The EC theory is that Boeing will reduce the price of a 737 by the amount of any tax reduction.¹³⁰³ There is no evidentiary support for this assertion and much evidence that contradicts it. Boeing prices its aircraft at the highest level the market will bear.¹³⁰⁴ Thus, it maintained its 737 prices in the face of systematic undercutting by the A320 family [***]. Moreover, during the period 2000-2006, any FSC/ETI benefit was dwindling, and the B&O tax rate reductions were essentially nonexistent. Finally, because the evidence shows that Boeing’s pricing has always been market-driven, it should be clear that any tax reduction would have **no effect on prices for the 737.**

1043. **Contractual research payments.** With regard to these programs, the EC asserts they generate additional “non-operating cash flow” that the company “can invest in lower prices and additional R&D.”¹³⁰⁵ The assertion regarding research costs – which duplicates one made with regard to the 787 – is inconsistent with the remainder of the EC’s explanation of its claims regarding the 737. These start off with the statement that the “principal effect” of the alleged subsidies was on prices,¹³⁰⁶ and nowhere include allegations of a “knowledge effect” in the form of bringing the aircraft to market earlier than would otherwise have been possible or with superior features.

1044. As for the effect of “development” subsidies (which in the EC nomenclature, includes this group) on the price, the EC’s claims regarding price effects rely entirely on the assertions that (1) the subsidies are the functional equivalent of non-operating cash flow to Boeing, a contention that Section B.6 demonstrated was flatly wrong,¹³⁰⁷ and (2) that a high proportion of the cash flow

¹³⁰² *US – Cotton Subsidies (Panel)*, para. 7.1305 n.1417.

¹³⁰³ ECFWS, para. 1477.

¹³⁰⁴ Statement of Clay Richmond, para. 2 (Exhibit US-275).

¹³⁰⁵ ECFWS, para. 1480.

¹³⁰⁶ ECFWS, para. 1471.

¹³⁰⁷ This proposition assumes that but for the alleged subsidies, Boeing would have internally funded the same research it performed for the government, and that the effort would have cost the same amount. There is no support for this proposition. In any event, contractual research payments would have no effect on Boeing’s non-

benefit is “invested” in “aggressive pricing.” The EC relies on the Cabral Report to support these claims. The problems with the Cabral Report are innumerable, as we demonstrated at length. At bottom, the Cabral Report assumes the facts it purports to prove.

1045. In fact, during the period under consideration, Boeing’s financials show that none of its “non-operating cash flow” was “invested” in aircraft pricing. Boeing funded its commercial aircraft investment (including R&D) from the operating cash flow of its commercial airplane division (which was large enough to transfer excess cash to other Boeing divisions).¹³⁰⁸ In fact, Boeing’s internal funds and access to capital markets were more than sufficient to develop on its own any technology that the EC alleges to have been created with government funds.

1046. In short, contractual research payments had **no effect on prices for the 737**.

1047. **Government facilities and personnel.** Boeing’s use of government facilities had no effect on prices for the 737. Such use is relatively infrequent and is subject to fees set at market prices or, in some cases, at higher than market prices. The activities of government personnel were even less likely to have any effect on the production or development of the 737. Therefore, programs such as these did not bear any share of Boeing’s product development cost and, consequently, cannot have freed up “non-operating cash flow” for use in, among other things, aggressive pricing on close sales. Therefore, government facilities and personnel had **no effect on prices for the 737**.

1048. **Other programs.** In Section B.7, we showed that these programs – DoD B&P expense reimbursements and KDFA bond financing – had no effect on Boeing’s development and production of large civil aircraft.

b. *The EC and Professor Cabral fail to prove that the alleged subsidies cause price effects.*

1049. As shown in Section B.6, the EC’s contention that Boeing’s “aggressive pricing” was a function of the alleged subsidies depends largely on the Cabral Report, which purports to quantify the impact on Boeing’s prices of alleged development subsidies, which comprise the bulk of the subsidies the EC alleges have been granted to Boeing. The EC agrees that their allegations of price effects must meet the SCM Agreement’s “but for” causation standard, but this requires the EC to show how the alleged subsidies change Boeing’s 737 pricing. Rather than address how this question based on empirical evidence, the Cabral Report and, by extension the EC, simply assume the answer.

¹³⁰⁷(...continued)

operating cash flow. During the period under consideration, Boeing had large cash reserves because it had spent all of the money it could economically justify on aircraft investments (including research).

¹³⁰⁸ Statement of Robert J. Pasterick, para. 2 (Exhibit US-274).

1050. Professor Cabral recognizes that development subsidies to “firms that have unconstrained access to capital ... would have no effect on their investment,” whether in the form of “aggressive pricing,” “product development” or any other type of investment.¹³⁰⁹ The results of his modeling exercise, therefore, wholly depend on the assumption that Boeing's access to capital markets is “constrained.” Yet, he offers no evidence of such constraints. Three economists, Dr. James Jordan and Dr. Gary Dorman of NERA, and Professor Bruce Greenwald of Columbia Business School, agree that Professor Cabral’s inability to point to any material constraints on Boeing’s access to capital markets is, alone, sufficient to invalidate his conclusions.¹³¹⁰ All three economists also agree that the problems with the Cabral Report extend far beyond this basic failure.

1051. Professor Cabral’s mistaken basic assumption of significant constraints on Boeing's access to capital markets is only the first in a long series of problems with his report:

- The model he uses to estimate the extent to which the alleged subsidies flow through to Boeing's pricing is ill-suited to the task.
- The Cabral Report mistakenly posits that subsidies associated with work under government R&D contract are the functional equivalent of cash to Boeing equal to the cost or value of the government R&D program.
- The Cabral Report’s assumptions (1) about the nature of the alleged subsidies, and (2) that Boeing has no options to invest in “the value of firm” beyond “aggressive pricing” and “product development” are misplaced.
- The formula Professor Cabral uses to allocate the effects of the subsidies between payments to shareholders, on the one hand, and “investment” in “aggressive pricing” and “product development,” on the other, is indefensible; it makes an elementary mistake in comparing a figure that represents the average flow of dividends to shareholders during a year with the average value of stock in the company.

1052. The Cabral Report’s flaws are particularly glaring in the context of single-aisle large civil aircraft competition. Professor Cabral assumes that Boeing “invests” the majority of the alleged development subsidies in aggressive pricing to realize “learning curve efficiencies” and to offset the costs of switching a new customer from Airbus.¹³¹¹ Yet, during the 2000-2006 period, 737 production had long passed the point where Cabral would ascribe learning curve incentives, and the overwhelming majority of customer “switches” were from Boeing to Airbus.

¹³⁰⁹ Cabral Report, p. 7, para. 22 (Exhibit EC-4).

¹³¹⁰ Greenwald Paper, pp. 1-2 (Exhibit US-8).

¹³¹¹ Cabral Report., para. 50 (Exhibit EC-4) (estimating that 47% of \$1 of subsidies is applied toward aggressive pricing to pay for switching costs).

1053. Thus, the Cabral Report fails to establish the “causal link” required by the SCM Agreement between the alleged subsidies and 737 price effects.

c. The magnitude of the benefit conferred by these programs is too small to have caused serious prejudice.

1054. As we have shown throughout this submission, the EC’s magnitude analysis is irredeemably flawed. First, the EC has overstated the value of the benefit associated with the subsidies it alleges. Second, its calculations to derive family-specific *ad valorem* benefit levels are self-contradictory, in that they treat programs alleged to have a cash flow effect on BCA as being related to specific products, and contrary to the evidence in concluding that certain programs benefitted the 737. Finally, the EC errs in treating a large number of sales as non-competitive, and in concluding that Boeing would be able to pick and choose exactly which potential orders would receive the benefit of subsidies. The result is a set of thoroughly distorted figures that exaggerate the magnitude of the alleged subsidies and then artificially escalate the magnitude again in relation to select transactions. The Panel should reject them.

1055. The pinpoint percentages calculated by the EC as per-aircraft price effects of alleged subsidies are also not required by the SCM Agreement. In past disputes concerning the magnitude of alleged subsidies, it appears that panels simply compared the alleged subsidy to the value of the relevant product. The same comparison in this dispute reveals a vanishingly tiny figure. For this dispute, taking the programs that the United States recognizes as subsidies and comparing them with Boeing’s order value in each year reveals a magnitude of less than 1 percent. This is too small to have any effect on the development or production of a large civil aircraft.

d. There is no coincidence in time between the alleged level of subsidization and the alleged serious prejudice to the EC’s interests.

1056. With regard to the 737, the EC alleges only that serious prejudice occurred with regard to the A320 in the 2004 to 2006 period, and is likely to occur in the future. However, alleged subsidies relevant to the 737 – even under the EC’s erroneous calculation – have been decreasing throughout this period. Thus, there is no coincidence between the level of subsidization, which is declining, and the serious prejudice, which in the EC view is increasing.

1057. Consideration of the program that has been found to be a specific subsidy (FSC/ETI) supports the conclusion that subsidies have no relation to the EC allegations of serious prejudice. During the 2000-2006 period, the absolute level of alleged subsidization to all Boeing large civil aircraft decreased from \$266 million per year to \$140 million per year. The ratio of the FSC/ETI in relation to the value of orders has declined even more markedly. And yet, the share of the 737

as compared with the A320, as well as with all other 100-200 seat large civil aircraft,¹³¹² decreased from 2001 to 2003 (when FSC/ETI level relative to order value remained roughly the same) and then increased from 2004 to 2006 (when the FSC/ETIC level relative to order value fell):

	FSC/ETI	FSC/ETI ratio to orders	737NG orders	737NG share vs. A320
2000	\$266	1:122	371	54%
2001	\$197	1:84	179	46%
2002	\$179	1:70	158	36%
2003	\$107	1:91	195	50%
2004	\$153	1:109	144	32%
2005	\$142	1:473	568	40%
2006	\$140	1:440	739	47%

Sources: Exhibit EC-17, p. 4; Airclaims CASE Database

What is significant is that this comparison of the evolution of the payments challenged by the EC and the rise and fall in orders of the 737 suggests that there is no causal link between the level of subsidization and Boeing's success in generating orders for the 737.

1058. These same data indicate that the alleged subsidization had no price suppressive effect because during the period, the relative value of the U.S. programs identified by the EC was decreasing.

e. There is no coincidence in time between the alleged annual price effects and the alleged serious prejudice.

1059. In addition to the disconnect described above, no temporal coincidence exists between the alleged price effects, which are the primary means by which the alleged subsidies to the 737 are claimed to cause serious prejudice, and any serious prejudice. The EC argues that certain dollar amounts of price effects are concentrated in certain years, meaning they are not conserved by Boeing.¹³¹³ The data, based on the EC's fatally flawed Cabral Report, show no coincidence

¹³¹² During the 2000 to 2006 period,

¹³¹³ ECFWS, para. 1492; ECFWS, para. 1322 ("The pricing effect of subsidies that increase Boeing's non-operating cash flow is immediate and direct for both the case of investment in aggressive pricing of new planes (via pricing down the learning curve) and for aggressive pricing of sales of mature aircraft.").

between the alleged annual price effects and the competitive fortunes of the 737, as shown below:

	Annual alleged price effects	Annual alleged price effects as percent of total Boeing order value	737NG orders	737NG order share vs. A320
2000	\$1215	3.9%	371	54%
2001	\$1216	7.8%	179	46%
2002	\$1184	9.7%	158	36%
2003	\$935	8.4%	195	50%
2004	\$1060	6.0%	144	32%
2005	\$1049	1.5%	568	40%
2006	\$1042	1.6%	739	47%

Sources: Cabral Report at para. 85 (Exhibit EC-4); Exhibit EC-17, p. 4; Airclaims Case Database.

- From 2000 to 2002, the level of alleged price effects increased, yet the 737 lost 17 percentage points of order market share in the single-aisle market segment.
- Conversely, the level of alleged price effects decreased from 2002 to 2003, while the 737 gained 16 points of order market share in the single-aisle segment.
- Most notable is the absence of any identifiable coincidence during 2004-2006, which the EC argues should be the Panel's reference period. In 2004, the level of alleged price effects was six percent, and the 737's share of single-aisle orders plunged to 31 percent. In 2005, the *ad valorem* level dropped precipitously, to 1.5 percent, while the 737's share of single-aisle orders increased by nine points. In that year, Boeing [***] Accordingly, the EC's theory fails to explain why Boeing would wait until the alleged price effects were at their ebb [***]. To compound the flaws in the EC's theory, the level of alleged price effects remained virtually the same in 2006, [***].

1060. Thus, regardless of whether the EC's price effects calculations are meant to be exact or merely estimates, they are meaningless. The alleged price effects bear no correlation to whether Boeing increased or lowered 737 prices, or whether the 737 gained or lost market share. Accordingly, the EC has failed to show that the alleged subsidies result in price effects, much less significant price effects that cause serious prejudice with regard to the A320.

3. Factors other than the alleged subsidization explain any indication of serious prejudice experienced with regard to the A320 and break any causal link with subsidization.

1061. The EC identifies three forms of serious prejudice to the A320: price suppression, lost sales, and displacement or impedance of exports into third country markets. In fact, single-aisle market developments are explained by two factors other than the alleged subsidies: (1) Airbus' decision to drive single-aisle large civil aircraft prices lower by undercutting Boeing 737NG prices at key low-cost carrier accounts, and (2) appreciation of the euro against the U.S. dollar.

1062. As shown in Section D.1, the dominant feature of competition between Boeing and Airbus single-aisle large civil aircraft during the 2000-2006 period was Airbus' systematic undercutting of 737 pricing, which enabled Airbus to switch 737 operators and become, for the first time in its history, the leading producer of single-aisle large civil aircraft. Airbus conceived and implemented this strategy, which necessarily entailed using lower prices to induce 737 operators to buy A320s. Thus, Airbus bears responsibility for the pricing it achieved during the period and any suppression of A320 pricing cannot be attributed to the alleged subsidies. Boeing, for its part, reacted to Airbus' pricing, as the alleged "price war" was fought largely on ground where Boeing was the incumbent supplier. There can be no credible argument that, absent the subsidies, Boeing would have reacted differently, allowing more 737 operators to make the switch that easyJet, Air Berlin, and AirAsia made. That Airbus was unable to win sales or displace Boeing at every account it targeted is attributable to Boeing's efforts to protect commercial interests – efforts that it would have been forced to undertake even absent the alleged subsidies. Accordingly, developments in single-aisle large civil aircraft competition during the 2000-2006 period cannot be attributed to the alleged subsidies.

1063. A second "other" factor as noted in Section A, is that dollar depreciation had a broad impact on Airbus's performance. Since Airbus incurs costs primarily in U.K. pounds and euros but receives revenue in U.S. dollars, every time the U.S. dollar dropped one percent against the euro, it was as if Airbus's Euro-equivalent revenue decreased by one percent. This made it difficult for Airbus to keep pricing at existing levels and remain profitable. The dollar fell in value by 25 percent between January 21, 2001, and January 2, 2004, and then fell *again*, by three percent, by December 29, 2006.¹³¹⁴

1064. In short, factors other than increased imports are responsible for all of the negative developments that the EC attempts to link to subsidization. The Panel should, accordingly, reject the EC's arguments.

4. The programs identified by the EC did not cause price suppression of the A320, as there was no reason to expect A320 prices to be higher than they actually

¹³¹⁴ European Central Bank, Euro Exchange Rates USD (Exhibit US-332).

were from 2004 to 2006, and any price suppression that did occur was the result of factors other than the alleged subsidies.

1065. The EC claims that the alleged subsidies have caused significant price suppression of the A320 by allowing Boeing to decrease 737 prices.¹³¹⁵ In responding to this claim, the United States incorporates Section D.2, which demonstrates that the alleged subsidies, by their nature, magnitude, and timing, have not caused the alleged price effects, and Sections D.1 and D.3, which show that Airbus' systematic price undercutting was the driving force behind A320 pricing. Although these sections of the U.S. submission establish that the alleged subsidies have not caused suppression of A320 pricing, the EC's specific price suppression arguments raise a number of points confirming that A320 pricing can only be attributed to Airbus' actions. Thus, when the EC asserts that "*something* suppressed A320 prices," the "*something*" was Airbus.

a. Airbus' pricing and production practices prevented A320 prices from rising in line with increased demand.

1066. Articles 5(c) and 6.3(c) of the SCM Agreement require that the EC demonstrate that, but for the alleged subsidies, A320 prices would have been higher. In an attempt to explain why A320 prices should have been higher, the EC cites increased demand after the 2001-2003 economic downturn and complains that [***]¹³¹⁶ The EC argues that "basic supply and demand principles suggest that large civil aircraft prices should increase with a surge in demand and reduced availability of delivery slots."¹³¹⁷ In relying on such "basic" principles, the EC fails to mention that Airbus continued to undercut Boeing as demand returned. Accordingly, [***] A320 prices in 2004 reflect the costs of switching Air Berlin from Boeing, while [***] A320 prices in 2005 reflect the costs of switching AirAsia. The extremely low prices given to these 737 operators conditioned the market. Although demand surged in 2005, customers understandably did not want to pay significantly higher aircraft prices than were recently obtained in these high-profile campaigns. Moreover, as the EC observes, A320 prices [***]¹³¹⁸ The principal change is that Airbus did not succeed in switching a 737 operator for a major order in 2006.

1067. Another Airbus practice served to dampen price increases that might be expected to accompany a market upturn – the decision to keep production rates steady during the economic downturn and boost production to record levels as demand returned. This practice contrasts with Boeing's production, which decreased significantly as demand declined and then increased at levels below that of Airbus. This practice by Airbus helped to fuel its record level of deliveries, but also eased supply constraints that might otherwise have led to increased prices.

¹³¹⁵ ECFWS, para. 1494.

¹³¹⁶ ECFWS, para. 1496.

¹³¹⁷ ECFWS, para. 1496.

¹³¹⁸ ECFWS, para. 1496.

	A320 monthly production rate	737NG monthly production rate
2000	20	23
2001	21	24
2002	20	18
2003	19	14
2004	19	17
2005	24	17
2006	28	25

Sources: Airclaims CASE database, data query as of January 18, 2007.

1068. Airbus recently announced two additional production increases within four months of each other, which will push the current rate of 32 A320s per month, already an industry record, to 40 per month by 2009.¹³¹⁹ Airbus decided to boost production so significantly in part because of its problems with other aircraft models: “The European planemaker will need an estimated \$15 billion to build the A350, even as the A380’s woes slash billions from the bottom line. To generate badly needed cash, it is boosting production of its single-aisle A320 aircraft to record levels”¹³²⁰

1069. Airbus’ aggressive production rates, along with its pattern of undercutting 737 prices, have suppressed A320 prices, as noted by industry experts when asked to explain what an Airbus official could not explain—why new A320s are valued up to \$2 million lower than new 737s:

{Mark Pearman-Wright, Airbus’ Head of leasing and investor marketing:} “If I look at the values, we seem to be consistently penalized to the tune of up to \$2 million for new aircraft and \$500,000 for a 20 year aircraft. I don’t understand that. They are very similar airplanes. The appraisers will say that’s the way the data show. I don’t see any particular logic for that.” Fred Klein, president of Aviation Specialists, has a different view. The A320 family has less value, he says, because that’s what the market believes and because, “to me, you can describe it in two words: supply discipline. Airbus keeps the {production} tap open wider than Boeing and cuts prices to move airplanes. In my opinion, cutting on new prices hurts long-term values.” Klein’s values for the A319 and A320 trail the 737-700 and 737-800, as do those from Avitas. But the latter’s Douglas Kelly, vice

¹³¹⁹ Daniel Michaels, “Airbus, in a Risky Bet, To Raise Production of A320,” *Wall Street Journal* (Nov. 20, 2006) (Exhibit US-349); “Airbus Revs Up the Engines,” *BusinessWeek* (Mar. 5, 2007) (Exhibit US-350).

¹³²⁰ “Airbus Revs Up the Engines,” *BusinessWeek* (Mar. 5, 2007) (Exhibit US-350).

president for asset valuation, has a different theory for why. The 737-800, in typical two-class configuration, carries 162 passengers in the Avitas assumptions vs. 150 for the A320. “The 737-800 is a bigger airplane than the A320 so you would expect a higher price,” Kelly says. “I would {also} expect possibly a little lower pricing on the A320 because Airbus was pricing for market share. Now that they have 50% (for narrow-bodies), you wouldn’t expect much differential.” Klein disagrees. Airbus discounting on the A320 not only has been a past practice, he believes that with Airbus boosting production to as many as 40 A320 family members a month to get the cash flow needed to carry the company through the A380 tribulations means that steep discounting will continue. This will depress current market and future values, Klein believes.¹³²¹

1070. With Airbus undercutting Boeing 737 pricing and boosting A320 production to record levels, there is no basis for inferring that, but for the alleged subsidies, A320 prices would have been any different.

b. Boeing’s 737 pricing in 2005 was a reaction to Airbus undercutting, not the initiation of a “price war.”

1071. Despite an overwhelming amount of evidence to the contrary, the EC asserts that Boeing initiated a “price war” in late 2004.¹³²² The EC argues that [***] in 2005 “makes little sense absent the price effects from the subsidies.”¹³²³ In fact, Boeing’s 737 pricing makes perfect sense in light of market conditions. Having just lost two major orders from 737 operators Air Berlin and AirAsia, Boeing’s share of single-aisle orders slid to a low of 33 percent by the end of 2004, while Airbus achieved a record 67 percent of orders. Boeing chose to [***] rather than accept a permanent second place in this segment. The EC provides no reason to believe that, absent the alleged subsidies, Boeing’s choice would have been different. Incredibly, the EC proceeds to argue that, “{i}n order to *maintain* single-aisle market-share, Airbus was forced by Boeing’s subsidy-fuelled lower prices to cut its own price for its A320 LCA.”¹³²⁴ Here, the EC distorts the chain of events and their causes: Airbus’ share of single-aisle orders in 2004 was at the highest level in its history, and it had accomplished this feat by undercutting Boeing’s 737 pricing.

c. Campaign-specific evidence, much of it the EC’s own, demonstrates that the alleged subsidies have not suppressed A320 prices.

1072. The EC attempts to support its A320 price suppression claim by reference to specific sales campaigns. Yet these campaigns, viewed together or individually, show that Boeing’s pricing would be no different without the alleged subsidies. Indeed, these campaigns, which Airbus won, are a microcosm of its successful strategy of buying market share through price undercutting. Of

¹³²¹ Scott Hamilton, “Airbus targets appraisers on values,” *Jetrader* (Jun. 2007) at 12-14 (Exhibit US-277).

¹³²² ECFWS, para. 1499.

¹³²³ ECFWS, para. 1499.

¹³²⁴ ECFWS, para. 1500 (emphasis added).

the six campaigns cited by the EC to support its price suppression claim, all but one involved a customer that was a Boeing 737 operator with no A320s in its fleet. The United States discusses all six campaigns in detail in its Campaign Annex and responds below to the campaign-related arguments the EC makes in the main text of its first written submission.

1073. The EC characterizes these campaigns collectively as featuring “subsidy-enhanced low prices” for the 737NG that “forced Airbus to lower its own A320 prices in order to secure orders.”¹³²⁵ In fact, these campaigns reveal Airbus’ pattern of driving pricing downward. Moreover, the very nature of all but one of these campaigns required Airbus to buy off the customer’s cost of switching from a 737 fleet.

1074. In referring to Campaign 17 (EC Campaign Annex E, Section III.E), the EC asserts that “Airbus was forced to match a very aggressive unsolicited offer” from Boeing,¹³²⁶ failing to mention that the customer was a 737 operator reluctant to switch to Airbus. Contrary to the EC’s assertion, Airbus led pricing downward, and Boeing lost the sale because matching the Airbus price did not make business sense.¹³²⁷

1075. Similarly, Boeing was the incumbent in Campaign 23 (EC Campaign Annex E, Section III.F), but Airbus priced low enough to offset the switching costs and win the order.¹³²⁸ In that campaign, as well as in Campaign 16 (EC Campaign Annex E, Section III.B) and Campaign 22 (EC Campaign Annex E, Section III.D), Boeing [***]¹³²⁹ [***]. The most reasonable explanation is the accurate one – that the alleged subsidies had no influence on Boeing’s pricing. Boeing held back to obtain the highest possible price, and lost the campaigns to Airbus on the basis of price.

1076. With regard to Campaign 18 (EC Campaign Annex E, Section II.C), the EC again cites an instance where Boeing initially was not aggressive.¹³³⁰ The EC asserts that Boeing offered “unprecedented” discounts, yet the evidence presented by the EC and discussed in the U.S. Campaign Annex shows that this assertion has no basis in fact¹³³¹

1077. Finally, the EC cites yet another two campaigns, Campaign 14 (EC Campaign Annex E, Section II.E) and Campaign 15 (EC Campaign Annex E, Section III.A), involving Boeing 737 customers in an attempt to show that “Boeing’s subsidy-enhanced pricing policy in one sales

¹³²⁵ ECFWS, para. 1507.

¹³²⁶ ECFWS, para. 1509.

¹³²⁷ U.S. Campaign Annex, paras. 113-114.

¹³²⁸ U.S. Campaign Annex, paras. 135-137.

¹³²⁹ U.S. Campaign Annex, Campaign 23, para. 137; Campaign 16, paras. 108-109; Campaign 22, para. 132.

¹³³⁰ ECFWS, para. 1511.

¹³³¹ U.S. Campaign Annex, para. 119.

campaign has continuing effects in other sales campaigns.”¹³³² These two campaigns did indeed have continuing effects,¹³³³ but only as a result of Airbus’ attempts to undercut Boeing and take market share. Each campaign involved key 737 customers. Boeing managed to avoid being displaced in Campaign 14, but [***]¹³³⁴ On the basis of Campaign 14, Airbus knew it would have to discount even further to switch the customer involved in Campaign 15.¹³³⁵ Airbus did so and won the campaign.

1078. In short, the EC has not met its burden of proof. Article 6.3(c) allows a finding of serious prejudice due to price suppression only if it is “the effect of” the alleged subsidies. The only theory the EC put forward to meet this element of its serious prejudice claim is that the alleged subsidies allowed Boeing to charge lower prices for the 737, and that the lower prices forced Airbus to reduce its own prices for the A320. The EC’s failure to show that 737 prices caused a reduction in prices for the A320 is fatal to its claim, and should end the analysis.

1079. Nevertheless, the EC also fails to meet its burden of proof for the other step in its chain of reasoning, as it has not shown that the alleged subsidies caused prices for the 737 to be lower than they otherwise would have been. The EC attempts to forge a link with two calculations. The first, its calculation of the magnitude of the subsidies, fails for the reasons that we described in Sections B.5 and D.2.c, namely, that the EC’s subsidy magnitude calculation, in aggregate and especially on a per-plane basis is greatly distorted. The EC’s counterfactual analysis on A320 pricing in the absence of the alleged subsidization is accordingly incorrect, and does not support the proposition that the programs identified by the EC affected A320 prices.¹³³⁶ As we showed in Sections B.6.c and D.2.e, the same holds true for its estimated price effects analysis.¹³³⁷ Therefore, the Panel should give no weight to the EC’s calculations.

1080. Finally, as we explained in Sections D.3 and D.4.b, if there has been any suppression of A320 prices, factors other than the alleged subsidies are the cause. Therefore, the Panel should reject the EC’s claim that the alleged subsidies caused price suppression to the A320.

5. The programs identified by the EC did not cause lost sales of the A320.

1081. The EC makes A320 lost sales allegations with regard to five sales campaigns, claiming that the Airbus lost each sale because “Boeing offered its 737NG large civil aircraft at a net price

¹³³² ECFWS, para. 1512.

¹³³³ U.S. Campaign Annex, paras. 102-104.

¹³³⁴ U.S. Campaign Annex, para. 90.

¹³³⁵ U.S. Campaign Annex, paras. 95-97.

¹³³⁶ ECFWS, paras. 1597-1599.

¹³³⁷ ECFWS, para. 1401.

that was lower than what Airbus was reasonably able to offer for its A320 family LCA.”¹³³⁸ As with the campaigns related to the price suppression claim, Boeing was the incumbent with the 737 in all but one of the campaigns the EC cites for its lost sales claims.¹³³⁹ But for the existence of any alleged subsidies, Boeing would still have had a compelling interest in retaining these customers as 737 operators, and the EC has not attempted to show that Boeing could not have priced as it did absent the subsidies.

1082. Thus, the EC provides no credible support for the proposition that the alleged subsidies resulted in lost sales of the A320. In fact, the evidence submitted by the EC in its 737 Campaign Annex contradicts those assertions, and evidence contained in the U.S. Campaign Annex further proves that the alleged subsidization did not cause lost sales. The EC then continues on to repeat its assertions with regard to the nature, magnitude and price effects of the alleged subsidies. This discussion contains nothing new and, rather than repeat previous arguments, we incorporate analysis set out in Section D.2, which demonstrates that the EC has not set out a *prima facie* case in this regard. The United States discusses all six sales campaigns in detail in its Campaign Annex and responds below to the campaign-related arguments the EC makes in the main text of its first written submission.

1083. In Campaign 14 (EC Campaign Annex E, Section II.E), Airbus entered the campaign knowing that it would have to undercut Boeing to win.¹³⁴⁰ This campaign involved a major Boeing 737 customer, and, considering the importance of keeping this customer and the size of the order, Boeing had every reason to compete vigorously in this campaign. This would have been the case regardless of whether Boeing had received the alleged subsidies. Thus, the outcome of this campaign can only be considered to be the effect of the alleged subsidies if Boeing otherwise would have been unable to offer the terms it did. The EC has completely failed to show this.

1084. In Campaign 20 (EC Campaign Annex E, Section II.A), [***]¹³⁴¹ [***] For the EC to claim that Boeing’s offer was an effect of the alleged subsidies is to imply that [***]. This notion is contrary to the commercial interests of an unsubsidized manufacturer faced with the market share losses that Boeing faced at that time. Accordingly, with no basis for believing that Boeing would have priced differently in the absence of subsidies, the outcome of the Campaign 20 campaign cannot be attributed to the alleged subsidies.

1085. Campaign 24 (EC Campaign Annex E, Section II.B) was Boeing’s last chance to retain a 737 Next Generation operator in a country in which it had been significantly displaced by

¹³³⁸ ECFWS, para. 1519.

¹³³⁹ The other customer, involved in Campaign 20 (EC Campaign Ann. E, II.A) was not an airline and did not operate A320s.

¹³⁴⁰ U.S. Campaign Annex, para. 89.

¹³⁴¹ U.S. Campaign Annex, para. 124.

Airbus.¹³⁴² [***].¹³⁴³ The EC’s arguments cannot surmount this essential fact. And again, the EC provides no evidence that, in the absence of the alleged subsidies, Boeing would have acted any differently. Accordingly, the lost sale claim must fail.

1086. Contrary to the EC’s assertion,¹³⁴⁴ the customer in Campaign 21 (EC Campaign Annex E, Section II.C) chose Boeing [***].¹³⁴⁵ As with so many of the single-aisle aircraft campaigns identified by the EC, Airbus was intent on switching this customer from Boeing. The customer decided to stay with Boeing because the 737 was [***] and a pre-existing fleet presence enabled it to prevail. Because Boeing’s pricing reflected market conditions set by Airbus, and because there is no evidence that, but for the subsidies, Boeing could not have offered such terms, the EC’s lost sale and displacement/impedance claims must fail.

1087. Campaign 19 (EC Campaign Annex E, Section II.D) featured a major Boeing customer that had never ordered Airbus aircraft.¹³⁴⁶ Boeing had compelling reasons to prevent Airbus from making inroads at one of its biggest customers, and these imperatives would have existed regardless of the alleged subsidies.¹³⁴⁷ Considering these legitimate interests together with the absence of any evidence that, but for the alleged subsidies, Boeing could not have offered the terms it did, the EC’s claims must fail.

1088. In short, the EC has not met its burden of proof, as it has not shown that the alleged subsidies caused prices for the 737 to be lower than they otherwise would have been. The EC attempts to forge this link by arguing that in certain sales campaigns the “available magnitude and the estimated effects of the US subsidies were sufficient to cover the narrow gap between Boeing’s winning net price and Airbus’ best and final offer.”¹³⁴⁸ This reasoning contains several flaws. *First*, as shown above, the EC’s attempts to quantify the magnitude and estimated price effects greatly overstate any possible benefit of the U.S. programs, especially with regard to the per-aircraft programs, especially with regard to the per-aircraft calculations, and cannot form the basis for any meaningful comparison with the difference between the companies’ final offers. *Second*, the EC has provided no basis to conclude that in the absence of the alleged subsidization, the price offered by Boeing would increase by the margin of subsidization – even if that figure were calculated correctly.¹³⁴⁹ *Third*, the EC admits that buyers of large civil aircraft consider a number of factors in their purchasing decision, including the costs and risks of switching aircraft

¹³⁴² U.S. Campaign Annex, para. 138.

¹³⁴³ U.S. Campaign Annex, para. 139.

¹³⁴⁴ ECFWS, para. 1524.

¹³⁴⁵ U.S. Campaign Annex, para. 129.

¹³⁴⁶ U.S. Campaign Annex, para. 121.

¹³⁴⁷ U.S. Campaign Annex, para. 121.

¹³⁴⁸ ECFWS, para. 1519.

¹³⁴⁹ ECFWS, para. 1321.

types. It has provided no basis to conclude that the small price increases predicted under the EC calculation (which are themselves exaggerated) would change the result of any of the cited campaigns. Therefore, the EC's comparison of its calculated subsidy magnitudes and "price effects" of the subsidies with differences between final offers does not support the conclusion that those sales would have been taken by Airbus.

1089. In conclusion, the EC's assertion that subsidization of the 737 caused lost sales of the A320 is contrary to the evidence. The Panel should accordingly reject this element of the EC's claims.

6. *The programs identified by the EC did not displace or impede exports of the A320 into any third country "markets."*

1090. The EC's arguments regarding displacement and impedance of exports of A320 into third country markets is flawed on several counts. Most notably, there simply is no evidence that the A320 has been displaced or impeded in a third country market with sufficient volume to support a conclusion regarding import trends, much less as a result of the alleged subsidies.

1091. The central flaw is that the EC addresses the wrong issue. It presents its claims in terms of "displacement or impedance" of *orders* for aircraft *by companies headquartered in the country subject to the allegations*. As we explained above in Section B.10, however, Article 6.4(a) and (b) define serious prejudice for this purpose in terms of displacement or impedance of, respectively, "imports . . . into the market of the subsidizing Member" and "exports . . . from a third country market." Thus, there must be an import or export – the movement of a physical product across a border – to trigger Article 6.3 (b). First, although orders may lead to imports or exports, they are not the same as imports or exports. An order does not necessarily result in an import or export, as the customer may cancel or defer a delivery to an indeterminate time in the future. Second, an order by a company headquartered in a country does not equate with an import or export into that country. For example, a leasing company could decide to have the aircraft delivered to a different country altogether, in which case the order would never become an import or export, in the country of the headquarters. Therefore, an analysis of displacement or impedance of *orders* simply does not address the standard set out in Article 6.4(a) or (b).

1092. Nonetheless, the EC presents all of the data in support of its claims regarding displacement and impedance in terms of *orders* each year from 2000. It presents data on neither imports and exports nor deliveries, which are the best proxy for imports and exports in this industry. The EC's failure to submit the relevant information by itself means that the EC has failed to meet its burden of proof.

1093. The EC also fails in its arguments on displacement and impedance in third-country markets. As an initial point, it has failed to identify *any* of the third country markets in its allegations – the table in paragraph 1536 names the countries only by reference to non-existent

sections of the EC 737 Campaign Annex.¹³⁵⁰ Moreover, although the EC presents each individual country as a separate market for purposes of its analysis, the 2000-2006 time period simply did not provide enough data to reach any conclusion about how the markets have developed. The EC suggests as much: “The Panel should be cautious in considering market-share data from individual countries for specialized and expensive capital goods such as LCA.”¹³⁵¹ Indeed, for the entire 2000-2006 period, [***]. These volumes provide no basis from which to reach any conclusion as to whether imports or exports have suffered displacement or impedance.

1094. The EC also presents a table showing figures for orders by all third countries in the aggregate.¹³⁵² The table shows merely that Boeing began the 2000-2006 period with between 57 percent of total single-aisle orders in all third country markets, and ended the period with 54 percent of such orders. Thus, Airbus’ share of aggregate third country orders grew. The EC attempts to shift the Panel’s focus from this salient fact by referring to only the final three years of data in a table, and by referring to certain lost sales described in the EC 737 Campaign Annex.¹³⁵³ As shown in Section B.4.c, there is no basis for limiting the Panel’s reference period to a few recent years. It is also significant that the airline campaigns referred to by the EC [***]¹³⁵⁴ [***] If anything, the data suggest that it was the A320 that displaced 737 orders during the 2001 to 2006 period.

1095. The EC also asserts that it demonstrates displacement or impedance on the basis of world market-share data,¹³⁵⁵ but it provides no such data.¹³⁵⁶ Although order data is an invalid evidentiary basis for a displacement/impedance claim, the United States presents such data below to show that Airbus’ share of world market orders grew considerably at the expense of Boeing single-aisle aircraft, including the 737 as well as the 717 and 757, which Boeing was forced to pull from the market:

¹³⁵⁰ The table references [***]

¹³⁵¹ ECFWS, para. 1535.

¹³⁵² ECFWS, para. 1537.

¹³⁵³ ECFWS, paras. 1538-1539.

¹³⁵⁴ U.S. Campaign Annex at Campaigns 14, 19, 21, 24.

¹³⁵⁵ ECFWS, para. 1535.

¹³⁵⁶ ECFWS, paras. 1534-1540.

NON-BCI VERSION

	737NG orders	A320 orders	737NG share vs. A320	A320 share of single-aisle LCA orders	A320 share vs. 737NG
2000	371	310	54%	42%	46%
2001	179	207	46%	48%	54%
2002	158	285	36%	60%	64%
2003	195	192	50%	48%	50%
2004	144	313	32%	67%	68%
2005	568	842	40%	60%	60%
2006	739	819	47%	53%	53%

Source: Airclaims CASE database, data query January 18, 2007.

In fact, use of the proper data – deliveries, rather than orders – reveals that there has been no displacement or impedance in the world market. Indeed, the delivery data show a steady increase in A320 world market share:

	737NG deliveries	A320 deliveries	A320 share of single-aisle deliveries	737NG share vs. A320	A320 share vs. 737NG
2000	275	237	49%	54%	46%
2001	291	256	40%	53%	47%
2002	219	234	47%	48%	52%
2003	167	229	54%	42%	58%
2004	198	233	51%	46%	54%
2005	208	287	56%	42%	58%
2006	294	337	53%	47%	53%

Source: Airclaims CASE database, data query January 18, 2007.

1096. The EC also cites to all of the arguments made with regard to price suppression and lost sales, and incorporates them into the section, *mutatis mutandis*. In response, we request that the Panel take the explanation we set out in Sections D.4 and D.5 as rebuttal to the EC’s claims.

1097. As the EC has neglected to submit the information on imports/exports or deliveries that is relevant to evaluate its claim, the Panel has no basis on which to decide that displacement or impedance has occurred. For this reason, and the other reasons set forth in this subsection, the EC has failed to make a *prima facie* case. The Panel should accordingly reject the EC's arguments in this regard.

7. *The programs identified by the EC do not cause a threat of serious prejudice to EC interests with regard to the A320.*

1098. The EC's threat of serious prejudice arguments do nothing more than repeat the erroneous assertions made with regard to price suppression, lost sales, and displacement/impedance of orders for 2004-2006, and claim that they demonstrate a threat of serious prejudice. As we explain in Section B.11, threat of serious prejudice exists only if a change in circumstances is clearly foreseen and as a result, the occurrence of one of the serious prejudice factors is imminent. Threat of serious prejudice is usually only relevant if a complaining part has failed to show an existing serious prejudice, but has shown that there are multiple indications that the existing non-prejudicial situation will evolve in the imminent future to a state of serious prejudice.

1099. The EC has failed to carry this burden. First, the entirety of the EC's threat of serious prejudice argument consists of unsupported assertions that the current situation for Airbus is going to "continue" in the future.¹³⁵⁷ However, as we have shown, the alleged subsidization of the 737 did not cause serious prejudice to the 2004-2006 period highlighted by the EC. In the absence of any new information – and the EC presents none – the continuation of the existing situation is not likely to change to serious prejudice. Thus, the EC's arguments on their face indicate that the alleged subsidies pose no threat of serious prejudice.

1100. Second, the EC has provided absolutely no support for its assertion that the current situation is likely to "continue." In fact, every indication is that it is likely to *improve*, therefore belying any notions of threat of serious prejudice. Airbus has projected sufficient future demand for the A320 that it will reach yet another record production rate.¹³⁵⁸ Airbus CEO Louis Gallois recently stated that "{w}e are on the way to recover, with our new organisation, the launch of the (long-haul) A350, the perspective of delivering the A380 to Singapore Airlines and the first concrete savings of Power8."¹³⁵⁹ Airbus has told investors that the Power8 plan "will make Airbus better prepared to face the challenge of the US Dollar weakness, increased competitive pressure, the financial burden related to the A380 delays, as well as to meet its other future investment needs."¹³⁶⁰ Therefore, while Airbus continues to face challenges, the situation is plainly improving.

¹³⁵⁷ ECFWS, paras. 1449-1451.

¹³⁵⁸ "Airbus Revs Up the Engines," *BusinessWeek* (Mar. 5, 2007) (Exhibit US-350).

¹³⁵⁹ "Airbus head sees brighter skies ahead," *AFP News brief* (June 5, 2007) (Exhibit US-331).

¹³⁶⁰ Airbus, *aero-notes*, p. 6 (May 2007) (Exhibit US-328).

1101. The EC also presents a series of arguments based on the notion that future *deliveries* of aircraft ordered during the 2004-2006 period will experience serious prejudice as a result of the alleged subsidies. However, reciting *mutatis mutandis*, as the EC tries to do, does not transmute arguments regarding past orders into a *prima facie* case of threat of serious injury for future deliveries. Some of the 2007-2010 deliveries in the threat of serious prejudice section will result from orders made before 2004 or after 2006, the period for which the EC presented evidence. Some of the 2004-2006 orders will not be delivered between 2007 and 2010. Second, those deliveries will be made under different market conditions than existed in the 2004-2006 period. Having resolved the difficulties that recently bedeviled the A380 and launched a reorganization, Airbus shows every sign of strengthening.

1102. This general refutation of the EC's threat of serious prejudice arguments, along with rebuttals in previous sections of arguments that the EC incorporates "*mutatis mutandis*" in its threat section, demonstrate that the EC has failed to make a *prima facie* case. The Panel should accordingly reject the EC's claims in this regard. The following sections address a limited number of points specific to the individual allegations of serious prejudice.

- a. *The EC has not made a prima facie case that the alleged subsidization causes a threat of serious prejudice to future orders of the A320.*

1103. The only claim the EC makes with regard to future A320 *orders* is that they will undergo significant price suppression.¹³⁶¹ It does not claim a threat of lost sales or displacement/impedance with regard to future orders. The EC's arguments rest almost exclusively on the notion that the continuation of "price effects" from the 2006-2008 period poses a threat of price suppression. We demonstrated in paragraphs 1098, 1103, 1178, 1183-1102, 1182 why that is not the case, and will not repeat that analysis here. The EC does make a few additional, although equally unconvincing, arguments.

1104. The EC claims that the magnitude of the alleged subsidies is "large" both in absolute and *ad valorem* terms.¹³⁶² As we showed in Section B.5, the EC greatly overstated the magnitude figures, and its methodology for calculating per-aircraft *ad valorem* rates is completely unreliable. Therefore, the EC's assertions regarding magnitude do not support its claim that the alleged subsidies cause a threat of significant price suppression.

- b. *The EC has not made a prima facie case that alleged subsidization causes a threat of serious prejudice to future deliveries of A320.*

1105. The remainder of the EC's threat of serious prejudice argument consists of a series of conditional claims, which it asks the Panel to address only in the event that of a finding "*orders* (as opposed to *deliveries*) booked during the 2004-2006 reference period cannot serve as the basis

¹³⁶¹ ECFWS, para. 1542.

¹³⁶² ECFWS, para. 1545.

for the EC's present serious prejudice claims."¹³⁶³ The United States is of the view that orders are the proper basis for evaluating price suppression and lost sales. Therefore, we agree that it is not necessary for the Panel to address the EC's threat of price suppression and threat of significant lost sales arguments. Should the Panel nonetheless decide to address these claims, it should note that the EC uses the same arguments it raised with regard to orders of the A320. It even goes so far as to incorporate those arguments *mutatis mutandis*. Accordingly, the Panel should look to the response to the incorporated arguments in Section E.2 through E.7 as our rebuttal to paragraphs 1556-1561 of the EC submission. That analysis, along with the further comments in this subsection, demonstrate that the EC has failed to make a *prima facie* case of threat of price suppression or lost sales.

1106. Most importantly, the EC has presented *no* data on deliveries, either present or future. It is not enough simply to assert, as the EC does, that future deliveries will suffer the same fate as past orders. We have shown that those orders were neither displaced nor impeded by the alleged subsidies. (We incorporate our analysis in Section D.6 as rebuttal to the arguments that the EC incorporates, *mutatis mutandis*, in paragraph 1650 of its first written submission.)

1107. Therefore, the EC has failed to demonstrate the existence of a threat of displacement or impedance of exports of the A320 to a third country market or markets.

* * * * *

1108. In conclusion, the EC has failed to show that the alleged subsidies cause serious prejudice to the interests of the EC within the meaning of Articles 5(c), 6.3(b), or 6.3(c). More specifically, the EC has not shown that the alleged subsidies cause significant price suppression, lost sales, or displacement or impedance with respect to A320 orders or deliveries. Nor has the the EC shown that the alleged subsidies threaten to suppress A320 order prices, or threaten to cause significant price suppression, lost sales, or displacement or impedance with respect to A320 deliveries.

E. Alleged Subsidies to the 777 Did Not Cause Serious Prejudice to EC Interests With Regard to the A340 or the A350 XWB

1109. The EC has not met its burden to prove that the alleged subsidies caused serious prejudice to EC interests as a result of the effects of the alleged subsidies to the 777 on Airbus' A340 and A350 XWB sales. The only theory it puts forward in support of this claim is that subsidies allowed Boeing to price the 777 lower than it would otherwise have done, that Boeing actually did reduce prices for the 777, and that those prices caused price suppression, lost sales, or displacement or impedance of the A340 and threaten to cause those serious prejudice factors with regard to the A350 XWB. Each link in this chain of reasoning is faulty.

¹³⁶³ ECFWS, para. 1552.

1110. First, the alleged subsidies did not have the effect of allowing Boeing to charge less for the 777 than it otherwise would have done. The EC puts forward only its subsidy magnitude and per-plane price effect calculations (based on the Cabral Report) to establish a link between the alleged subsidies and prices. As we showed above, the EC's magnitude and price effects calculations, both in aggregate and on a per-plane basis, magnified the errors and are so deeply flawed as to be unusable. Moreover, the Cabral Report, which underpins the price effect analysis, assumes what it purports to prove, resting on assumptions that are contrary to fact and dubious methodologies at odds with sound economic practice.

1111. Second, the data show that [***], and, in the specific sales campaigns cited by the EC, Boeing's 777 [***].¹³⁶⁴

1112. Third, the campaign-specific evidence the EC presents in support of its claims of price suppression, lost sales, and displacement or impedance is unconvincing, and at many points contradicts the EC's assertions.

1113. Finally, the evidence points to another cause entirely for any difficulties the A340 faced during the period – its excessive fuel consumption and other qualitative shortcomings. These stem not from any alleged subsidization, but from Airbus' design choices, most particularly the decision to put four engines on the aircraft. There is universal agreement – even by Airbus – that this results in per seat fuel consumption in well excess of the 777's. Aviation fuel prices increased by 125 percent between 2004 and 2006 (a situation unrelated to the 777 price) that drove customers away from the A340. The depreciation of the dollar against the euro and the U.K. pound exacerbated an already difficult situation for the A340. The EC has, therefore, failed entirely to make a *prima facie* case that the alleged subsidies caused, or threaten to cause, serious prejudice or threat of serious prejudice with regard to the A340.

1114. The EC also argues that the same alleged subsidies threaten to cause serious prejudice to the A350 XWB, its arguments are cursory, and at odds with data showing the the A350XWB-900/-1000 received more orders than the 777 in the first half of 2007.¹³⁶⁵ The EC does not even begin to present the evidence specific to the A350 XWB that would be needed for a *prima facie* case. Therefore, this claim also fails.

¹³⁶⁴ U.S. Campaign Annex, paras. 149-150 (Campaign 25), 157 (Campaign 26), 163 (Campaign 27), and 169 (Campaign 28).

¹³⁶⁵ Compare Airbus Press Release, "Qatar Airways confirms order for 80 A350 XWBs and adds three A380s" (June 18, 2007) (Exhibit US-370), and Airbus Press Release, "Singapore Airlines signs contract for 20 A350 XWB" (June 22, 2007) (Exhibit US-360), with Boeing – Orders through June 26, 2007, available at <http://active.boeing.com/commercial/orders/index.cfm> (last visited June 30, 2007) (Exhibit US-361).

1. Product development choices made by Airbus and Boeing – and not the supposed price effects of alleged subsidies – are responsible for any problem faced by the A340.

1115. It was Airbus that started first with a new twin-aisle aircraft for long-range flights, launching the A340 in 1987, and brought its product to market first. At that point, growing engine reliability was casting doubt on the need to continue long-standing safety rules that effectively precluded twin-engine aircraft from serving long flights over water. Many aviation regulators were considering loosening those rules. Even so, Airbus decided to equip the A340 with four engines so that these rules would not apply to it. Airbus also decided to save costs by developing the A340 at the same time as the A330, with similar wings and comparable fuselage cross-sections.

1116. Ten years after the launch of the A340, in 1997, Airbus launched a major redesign of the aircraft, giving the new A340-500 and A340-600 models significantly greater range and capacity. However, despite a decade's worth of advances in engine technology, Airbus chose to design these newer A340s with four engines. The A340-500 and A340-600 have been the mainstays of Airbus' long-range, twin-aisle offering in recent years.

1117. When Boeing launched the 777 in 1990, it took a different approach. It took advantage of an ultra-powerful engine developed by General Electric, also an Airbus supplier, to design a large two-engine aircraft. (As was true in the 2000-2006 period, Boeing did not have sufficient resources at this time to develop two new aircraft families.) There is universal agreement – even by Airbus – that the result is an aircraft that consumes far less fuel per seat than the A340's four engines. Some estimates of the 777's fuel efficiency advantage range as high as 24 percent.¹³⁶⁶

1118. The A340 has also experienced other problems. Airbus' decision to use essentially one fuselage design on aircraft of such widely differing sizes as A330 and A340 compromised performance on the upper end of the spectrum, the A340.¹³⁶⁷ Moreover, its latest derivative models, the A340-600, Airbus' design failed to take account of airlines' current practice of putting extremely heavy seats in first class, which resulted in poor performance and left customers considering lawsuits.¹³⁶⁸ These problems and others have created widespread operator dissatisfaction with the A340. When Airfinance Journal polled investors and operators to rate 25

¹³⁶⁶ Kingsley-Jones, "Airbus to offer cash back on A340 as 777 stretches lead," *Flight International* (Jan. 24, 2006) (Exhibit US-357); "Boeing Roars Ahead," *Business Week* (Nov. 7, 2005) (Exhibit US-366).

¹³⁶⁷ The fuselage design proved to be optimal for the smaller-sized A330, and did not function as well at the longer fuselage lengths that characterized the A340.

¹³⁶⁸ David Robertson, "Carriers ponder compensation claims against Airbus for overweight aircraft," *TimesonLine* (Apr. 7, 2007) (Exhibit US-351).

Boeing and Airbus civil aircraft, the 777-300ER tied for second place and the 777-200ER came in fourth. Various versions of the A340, by contrast, came in 17th, 22nd and 24th.¹³⁶⁹

1119. In short, the 777 is by most measures a better aircraft than the A340. As a result, when the 777 and A340 compete head to head, [***].¹³⁷⁰ When the 777 takes sales it is generally because of its superior performance rather than price. The EC admits as much in its first written submission.¹³⁷¹

2. *There is no coincidence in time between the alleged subsidies and the alleged serious prejudice to EC interests.*

1120. With regard to the 777, the EC alleges only that serious prejudice occurred with regard to the A340 in the 2004 to 2006 period, and is likely to occur in the future with regard to both the A340 and the A350 XWB-900 and -1000. However, alleged subsidies relevant to the 777 – even under the EC’s erroneous calculation – have been decreasing throughout this period. Thus, there is no coincidence between the level of subsidization, which is declining, and the serious prejudice, which in the EC view is increasing.

1121. Consideration of the program that has been found to be a specific subsidy (FSC/ETI) supports the conclusion that subsidies have no relation to the EC allegations of serious prejudice. During the 2000-2006 period, the absolute level of FSC/ETI benefits to all Boeing large civil aircraft decreased from \$266 million per year to \$140 million per year. The ratio of the alleged subsidy in relation to the value of orders has declined even more markedly. And yet, the share of the 777 as compared with the A340 decreased from 2001 to 2003 (when the levels of this subsidy relative to order value increased) and then increased from 2004 to 2006 (when subsidy level relative to order value fell):

¹³⁶⁹ “The Real Battleground,” *Airfinance Journal*, p. 28 (Sept. 2005) (Exhibit US-352).

¹³⁷⁰ U.S. Campaign Annex, paras. 149-150 (Campaign 25), 157 (Campaign 26), 163 (Campaign 27), and 169 (Campaign 28).

¹³⁷¹ ECFWS, Annex F, para. 3. The EC challenged only three 777 orders in the 2004-2006 period as being sales in which price played a “significant role.”

	FSC/ETI	ESC/ETI as ratio to orders	777 orders	777 share vs. A340
2000	\$266	1:122	117	85%
2001	\$197	1:84	30	94%
2002	\$179	1:70	32	51%
2003	\$107	1:91	13	27%
2004	\$153	1:109	42	60%
2005	\$142	1:473	153	91%
2006	\$140	1:440	77	84%

Sources: Exhibit EC-17, p. 4; Airclaims CASE Database.

What is significant is that this comparison of the evolution of the payments challenged by the EC that are actually subsidies and the rise and fall in orders of the 777 suggests that there is no causal link between the level of subsidization and Boeing's success in generating orders for the 777.

1122. These same data indicate that the alleged subsidization had no price suppressive effect because during the period, the relative value of the U.S. programs was decreasing.

3. *The nature of the alleged subsidies did not given them any effect on the price of the 777.*

1123. The nature of the alleged subsidies and the way Boeing used the funds prevented those programs from having the price effects asserted by the EC, and the EC has failed to meet its burden of proof to show such effects. The Cabral Report, which underpins the EC's price effect analysis, rests on assumptions that are contrary to fact and dubious methodologies at odds with sound economic practice. The EC's attempts to lay out a mathematical connection between the subsidies and the supposed serious prejudice are riddled with errors. The calculations of the "magnitude" of subsidies rely on highly overstated valuations of the benefit conferred by U.S. government programs. The EC's effort to state that figure on a per-aircraft basis magnify the error still further, as the calculation relies on assumptions that are both internally inconsistent and out of touch with the realities of the large civil aircraft market. Similarly, the EC's conversion of the results of the Cabral Report into a numerical per-aircraft "price effect" adds to the intrinsic errors of those results by allocating them to particular models and derivatives without any explanation or evidentiary support. In fact, an objective analysis of the nature of the subsidies shows they had no effect on prices at all.

- a. *The nature of the alleged subsidies would not give them effects on the price of the 777.*

1124. The EC argues that the alleged subsidies affect 777 pricing by acting as incremental non-operating cash flow to Boeing. As demonstrated below, the nature of the alleged subsidies is such that a given amount of subsidization is not equivalent to cash and would not affect Boeing's pricing in particular sales campaigns. Moreover, the EC's price effects theory fails because, by resting on the assertion that the bulk of the alleged subsidies (which the EC describes as "development subsidies") are simply "fungible" cash to Boeing, it treats the nature of the alleged subsidies as irrelevant. The panel in *US – Upland Cotton* rejected a similar claim in the context of a price suppression claim, even while acknowledging that the challenged non-price contingent measures provided "higher cash flow and higher wealth" to cotton producers.¹³⁷²

1125. As we noted in Section B.3.b, the facts in this dispute require the division of the alleged subsidies into four groups for analysis of their effects. All of the general comments we make in Section B.6 apply specifically to the effect of the programs identified by the EC on the 777. This section provides additional comments applicable specifically to the EC's assertions regarding the 777.

1126. ***Tax reduction programs.*** This group of alleged subsidies includes FSC/ETI benefits and the B&O tax rate reductions by the state of Washington and City of Everett. The EC theory is that Boeing will reduce the price of a 777 by the amount of any tax reduction.¹³⁷³ There is no evidentiary support for this assertion and much evidence that contradicts it. Boeing prices its aircraft at the maximum level that the market will bear.¹³⁷⁴ With an aircraft as popular as the 777, Boeing is able to capture the full value of the tax reduction in the form of higher profits. Moreover, during the period 2000-2006, any FSC/ETI benefit was dwindling, and the B&O tax rate reductions were essentially nonexistent. Finally, because the evidence shows that Boeing's pricing has always been market-driven, it should be clear that any tax reduction would have **no effect on prices for the 777.**

1127. ***Contractual research payments.*** With regard to the price effect of these programs, the EC asserts that with the "cash flow" they generate "Boeing can invest in lower prices and additional R&D to lower its costs of research, development, production, and sale of 777 family LCA."¹³⁷⁵ The assertion regarding research costs – which duplicates one made with regard to the 787 – is inconsistent with the remainder of the EC's explanation of its claims regarding the 777. These start off with the statement that the "principal effect" of the alleged subsidies was on

¹³⁷² *US – Cotton Subsidies (Panel)*, para. 7.1305 n.1417.

¹³⁷³ ECFWS, para. 1571.

¹³⁷⁴ Statement of Clay Richmond, para. 2 (Exhibit US-275).

¹³⁷⁵ ECFWS, para. 1574.

prices,¹³⁷⁶ and nowhere include allegations of a “knowledge effect” in the form of bringing the aircraft to market earlier than would otherwise have been possible or with superior features.

1128. The EC does assert that certain technologies used in the 777 – supercritical wings, lightweight aerospace composite structures, computer-generated airflow images, noise reduction measures, radial tire strength, modern glass cockpits, and high-performance computing tools – had their origin in DoD RDT&E contracts or NASA R&D contracts.¹³⁷⁷ However, these technologies were either related to supplies (such as radial tires and cockpit glass) purchased from outside vendors who could also sell to Airbus or were technologies widely available in the aerospace community (composites technology, high-performance computing tools, supercritical wings, etc.). Thus, they did not give Boeing any competitive advantage. More importantly, this list merely underscores that the alleged subsidies had nothing to do with the technology most responsible for the 777’s success – the powerful GE engine that saved fuel by making a four-engine format unnecessary for long-haul flights. Thus, the EC has presented no evidence that the contractual research payments affected technology on the 777 in a way that caused serious prejudice.

1129. As for the effect of “development” subsidies (which in the EC nomenclature, includes this group) on the price, the EC’s claims regarding price effects rely entirely on the assertions that (1) the subsidies are the functional equivalent of non-operating cash flow to Boeing, a contention that Section B.6 demonstrated was flatly wrong,¹³⁷⁸ and (2) that a high proportion of the cash flow benefit is “invested” in “aggressive pricing.” The EC relies on the Cabral Report to support these claims. The problems with the Cabral Report are innumerable, as we demonstrated at length in Section B.6. At bottom, the Cabral Report assumes the facts it purports to prove.

1130. In fact, during the period under consideration, Boeing’s financials show that none of its “non-operating cash flow” was “invested” in aircraft pricing. Boeing funded its commercial aircraft investment (including R&D) from the operating cash flow of its commercial airplane division (which was large enough to transfer excess cash to other Boeing divisions).¹³⁷⁹ In fact, Boeing’s internal funds and access to capital markets were more than sufficient to develop on its own any technology that the EC alleges to have been created with government funds.

1131. In short, contractual research payments had **no effect on prices for the 777**.

¹³⁷⁶ ECFWS, para. 1564.

¹³⁷⁷ ECFWS, paras. 1576-1578.

¹³⁷⁸ This proposition assumes that but for the alleged subsidies, Boeing would internally fund the same research it performed for the government, and that the effort would have cost the same amount. There is no support for this proposition. In any event, contractual research payments would have no effect on Boeing’s non-operating cash flow. During the period under consideration, Boeing had large cash reserves because it had spent all of the money it could economically justify on aircraft investments (including research).

¹³⁷⁹ Statement of Robert J. Pasterick, para. 2 (Exhibit US-274).

1132. **Government facilities and personnel.** Boeing’s use of government facilities is unlikely to have had any effect on prices for the 777. Such use is relatively infrequent and is subject to fees set at market prices or, in some cases, at higher than market prices. The activities of government personnel were even less likely to have any effect on the production or development of the 777. Therefore, programs such as these did not bear any share of Boeing’s product development cost and, consequently, cannot have freed up “non-operating cash flow” for use in, among other things, aggressive pricing on close sales. Therefore, government facilities and personnel had **no effect on prices for the 777.**

1133. **Other programs.** In Section B.7, we showed that these programs – DoD B&P expense reimbursements and KDFA bond financing – had no effect on Boeing’s development and production of large civil aircraft.

- b. *The magnitude of any benefit that may have been conferred by these programs is too small to have caused serious prejudice.*

1134. As we have shown throughout this submission, the EC’s magnitude analysis is irredeemably flawed. First, the EC has overstated the value of the benefit associated with the subsidies it alleges. Second, its calculations to derive family-specific *ad valorem* benefit levels are self-contradictory, in that they treat programs alleged to have a cash flow effect on BCA as being related to specific products, and contrary to the evidence in concluding that certain programs benefitted the 777. Finally, the EC errs in treating a large number of sales as non-competitive, and in concluding that Boeing would be able to pick and choose exactly which potential orders would receive the benefit of subsidies. The result is a set of thoroughly distorted figures that exaggerate the magnitude of the alleged subsidies and then artificially escalate the magnitude again in relation to select transactions. The Panel should reject them.

1135. The pinpoint percentages calculated by the EC as per-aircraft price effects of alleged subsidies are also not required by the SCM Agreement. In past disputes concerning the magnitude of alleged subsidies, it appears that panels simply compared the alleged subsidy to the value of the relevant product. The same comparison in this dispute reveals a vanishingly tiny figure. For this dispute, taking the programs that the United States recognizes as subsidies and comparing them with Boeing’s order value in each year reveals a magnitude of less than 1 percent. This is too small to have any effect on the development or production of a large civil aircraft.

- c. *The Panel should place no weight on the EC’s product-specific price effect calculations, which are doubly erroneous, as they start with artificially high subsidy magnitude and derive a price effect based on Prof. Cabral’s faulty conclusions.*

1136. As we noted above, the causation element of the EC’s serious prejudice case against the subsidies allegedly given to the Boeing 777 is predicated entirely on the alleged effects of those programs on Boeing’s 777 pricing. In turn, this price effect claim depends very heavily on

Professor Cabral’s analysis of the price effects of the alleged subsidies. Professor Cabral’s report fails as a serious effort to calculate the effects of the alleged subsidies for several reasons:

- The Cabral Report accepts as fact the EC’s indefensible assertions about the nature and magnitude of the alleged subsidies.
- The Cabral Report assumes without any rational justification that the full amounts of the alleged subsidies are the functional equivalent of “non-operating cash flow” to Boeing.
- The Cabral Report assumes that Boeing invests a high percentage of the “cash flow” benefit of the alleged subsidies in “aggressive pricing.” This assumption rests on two hypotheses, both of which are demonstrably false: (1) that Boeing’s access to capital markets is constrained, and (2) that Boeing’s investment options are limited to payments to shareholders and investment in “aggressive pricing” and “product development.”
- Professor Cabral assumes that Boeing “invests” the majority (59 percent) of the alleged development subsidies in aggressive pricing to realize “learning curve efficiencies” and to offset the costs of switching a new customer from Airbus.¹³⁸⁰ During the 2000-2006 period, however, 777 production had long passed the point where Cabral would ascribe learning curve incentives for aggressive pricing,¹³⁸¹ and in only three instances did a customer “switch” from A340s to 777s.¹³⁸²

1137. Professor Bruce Greenwald of Columbia University and NERA economists, James Jordan and Gary Dorman have reviewed Professor Cabral’s work and demonstrated it to be a superficial effort to make a case for the EC without supporting evidence or a credible theoretical foundation. Because EC’s 777 pricing allegation have been built around so weak a foundation, they fail absolutely.

¹³⁸⁰ Cabral Report, para. 82 (estimating that 47 percent of \$1 of subsidies is applied toward aggressive pricing to pay for switching costs, while 12 percent is applied toward aggressive pricing to realize learning curve efficiencies) (Exhibit EC-4).

¹³⁸¹ Professor Cabral ascribes learning curve pricing incentives to “new” aircraft “whose version has cumulative production of less than 100 units.” Cabral Report, para. 82 (Exhibit EC-4). By the end of 1999, Boeing had placed 438 777 orders and made 261 777 deliveries. Boeing – 777 Orders for January 1990 through December 1999 (Exhibit US-362); Boeing – 777 Deliveries, January 1990 through December 1999 (Exhibit US-363). If Professor Cabral would ascribe learning curve pricing incentives to 777 derivative variants (e.g., the 777-200ER), he would be mistaken: “learning curve efficiencies’ are insignificant for new derivative variants of an already introduced aircraft.” Statement of James Hayes, para. 3 (Exhibit US-276).

¹³⁸² Boeing Press Release, Air Canada Selects Boeing 777s and 787 Dreamliners (Apr. 25, 2005) (Exhibit US-353); Qatar Airways Press Release, “Qatar Airways to Order Both Airbus and Boeing In US\$15.2 Billion Deal” (June 13, 2005) (Exhibit US-354).

4. Factors other than the alleged subsidization explain any indication of serious prejudice experienced with regard to the A340 and break any causal link with subsidization.

1138. The EC identifies three forms of serious prejudice to the A340: price suppression, lost sales, and displacement or impedance of imports and exports into the U.S. and third country markets. It posits that the alleged subsidies were a cause of these supposed developments because “the subsidies benefiting Boeing’s 777 family LCA . . . provide Boeing with the means to price down its 777 LCA, while maintaining its profitability,”¹³⁸³ and that, accordingly, “Boeing offered its 777 family in the 2004-2006 period at extremely aggressive prices.”¹³⁸⁴ The EC provides no evidence to suggest that these forms of serious prejudice are “the effect of” the alleged subsidies. In fact, two factors other than the alleged subsidies explain all of the market developments that the EC identifies: (1) customer dissatisfaction with fuel consumption and other design characteristics of the A340 and (2) appreciation of the euro against the U.S. dollar.

1139. There is no question that the A340 burns more fuel than the 777, as even Airbus admits.¹³⁸⁵ Boeing puts the difference at 24 percent.¹³⁸⁶ Customers concur that it is a significant difference. Robert Milton, CEO of Air Canada, said that once his finance staff plugged fuel prices over \$100 a barrel into their cost of operation calculations, “The overwhelming economic outcome of two engines vs. four really came to the fore.”¹³⁸⁷ The operating economics have always been a handicap for the A340, which explains why Boeing has sold five 777s for every two A340s sold by Airbus since 1990.¹³⁸⁸ However, that disadvantage became especially acute when aviation fuel prices shot up in 2004. In fact, there is a nearly perfect match between the ascent of oil prices and the descent in orders for the A340:

¹³⁸³ ECFWS, para. 1595 (price suppression); para. 1618 (lost sales); para. 1629, *citing* previous analysis (displacement or impedance).

¹³⁸⁴ ECFWS, para. 1596 (price suppression); para. 1618, *citing* para. 1596 (lost sales); para. 1629, *citing* previous analysis (displacement or impedance).

¹³⁸⁵ Kingsley-Jones, “Airbus to offer cash back on A340 as 777 stretches lead,” *Flight International* (Jan. 24, 2006) (Exhibit US-357).

¹³⁸⁶ Boeing Roars Ahead,” *Business Week* (Nov. 7, 2005) (Exhibit US-366).

¹³⁸⁷ James Wallace, “2-engine 777 speeding by Airbus,” *Seattle Post-Intelligencer* (Nov. 22, 2005) (Exhibit US-355).

¹³⁸⁸ The Airclaims database reports that Boeing had booked 903 orders for 777 as of the end of 2006, while Airbus had booked orders for only 348 A340s. Orders of 777 and A340, 1990-2006 (Exhibit US-364).

	Aviation fuel price (US\$/100 gal.)	A340 orders
2000	\$91	19
2001	\$74	2
2002	\$71	27
2003	\$87	35
2004	\$120	28
2005	\$172	14
2006	\$195	15

Source: Exhibits US-364 and US-365.

This is not the only penalty that the A340 faces. As noted above, customers generally rate the A340 as one of the least desirable large civil aircraft.¹³⁸⁹ The President of India’s Kingfisher airline, Vijay Mallya, put the point bluntly: “With the 777, Boeing has a better product that uses less fuel.”¹³⁹⁰

1140. The quality concerns explain why the A340 loses sales to the 777, and has since the two began competing in the early 1990s. The fuel consumption differential also explains any decrease in A340 prices in the 2004-2006 period. As Airbus’s chief operating officer – commercial, John Leahy explained, the “single-digit fuel burn penalty” that the A340 faces could be “traded off” through financial compensation to purchasers.¹³⁹¹ Although Leahy publicly attempts to minimize the cost differential, it is actually well above 10 percent, which would entail a correspondingly large price concession. Customers expected concessions. After the President of Kingfisher applauded the 777’s fuel consumption advantages, he said, “{n}evertheless, we are contemplating buying the A340 all the same, if we can come to an agreement on the price.”¹³⁹²

¹³⁸⁹ See Section E.1.

¹³⁹⁰ Daphne Benoit, “High oil prices hit four-engined Airbus,” *Agence France Presse – English* (Apr. 3, 2006) (Exhibit US-356).

¹³⁹¹ Kinglsey-Jones, “Airbus to offer cash back on A340 as 777 stretches lead,” *Flight International* (Jan. 24, 2006) (Exhibit US-357).

¹³⁹² Daphne Benoit, “High oil prices hit four-engined Airbus,” *Agence France Presse – English* (Apr. 3,

(continued...)

1141. A second important limitation on Airbus is the depreciation in the U.S. dollar. Since Airbus incurs costs primarily in U.K. pounds and euros but receives revenue in U.S. dollars, every time the U.S. dollar dropped one percent against the euro, it was as if Airbus's Euro-equivalent revenue decreased by one percent. This made it difficult for Airbus to keep pricing at existing levels and remain profitable. The dollar fell in value by 25 percent between January 21, 2001, and January 2, 2004, and then fell *again*, by three percent, by December 29, 2006.¹³⁹³

1142. In short, factors other than the effects of the alleged subsidies are responsible for all of the negative developments that the EC attempts to link to subsidization. The Panel should, accordingly, reject the EC's arguments.

5. *The programs identified by the EC did not cause price suppression of the A340, as there was no reason to expect A340 prices to be higher than they actually were from 2004 to 2006, and any price suppression that did occur was the result of factors other than the alleged subsidies.*

1143. The EC argues that the alleged subsidies allowed Boeing to decrease its prices, that Boeing actually did so during the 2004-2006 period, and that these reductions caused price suppression to the A340. Section E.3 showed in general why the alleged subsidies did not have the "price effects" asserted by the EC. Those observations hold true in particular for price suppression of the A340. The EC does not allege price depression. However, it asserts that in light of increasing demand for larger mid-sized large civil aircraft in 2005 and 2006, A340 prices should have risen, and that the reason they did not was the alleged subsidization. In this, the EC is wrong.

1144. First, the EC is correct that demand for mid-sized aircraft increased in 2005 and 2006. But that does not mean that demand *for the A340* increased. In fact, increasing prices for aviation fuel *depressed* demand for the A340 during that time, as customers sought aircraft that would provide more fuel efficient solutions to their transportation objectives.

1145. Second, the market conditions in 2005 and 2006 did not support an expectation of increased prices for the A340, even if demand had increased. As noted in subsection 4, customers facing higher fuel prices were seeking price *concessions* from Airbus to make up for the added fuel costs of Airbus's four-engine configuration. Thus, the EC's supposition that "*something* pressed down A340 prices in the 2004-2006 reference period"¹³⁹⁴ is correct – but not in the way that the EC alleges. The A340's prices were suppressed by its widening fuel consumption

¹³⁹²(...continued)
2006) (Exhibit US-356).

¹³⁹³ European Central Bank, Euro Exchange Rates USD (Exhibit US-332).

¹³⁹⁴ ECFWS, para. 1593 (emphasis in original).

penalty, so that the aircraft's [***] in 2006¹³⁹⁵ is, in fact, better performance than conditions would lead one to expect.

1146. Even if the Panel concludes that A340 prices should have been higher, the facts do not support the EC's claim that sales of the 777 are responsible. A comparison of the A340 pricing graph in paragraph 1593 of the EC first written submission with the 777 pricing graph in Exhibit US-1 demonstrates that there is no price suppression. First, from 2000 to 2002, [***] allowed Airbus to increase the A340's share of 777/A340 orders from 14 percent to 46 percent. [***] 2002 to 2003, and the A340's share increased by another 27 percentage points. [***] The 777 order share remained near the 2005 level (and, indeed, the 2000 level).

1147. These data demonstrate two key points. First, contrary to the EC's argument, Boeing was [***] in 2005 and 2006. In those years, [***]. Second, it was not Boeing price pressure that held back A340 prices in 2005 and 2006. Rather, even in a market that pushed up demand for many other models, the A340's fuel consumption and other weaknesses made it undesirable. Therefore, contrary to the EC's argument, the data on average prices indicate that prices for the 777 itself did not affect prices for the A340.

1148. The EC attempts to find support for its claims of price suppression in a narrative description of four campaigns that occurred in [***] In these campaigns, the A340's widening fuel burn disadvantage exacerbated other operating performance shortcomings [***]¹³⁹⁶ The U.S. Campaign Annex establishes these facts with convincing evidence, much of it the EC's own, leaving no doubt that Airbus cut A340 pricing because that was the only way to compete with the qualitatively better 777.

1149. Airbus asserts that at Campaign 28 (EC Campaign Annex F, Section III.A), the customer said that the 777-300ER was priced [***]¹³⁹⁷ However, evidence cited in the U.S. Campaign Annex shows that the price for the 777-300ER at the end of the campaign [***]¹³⁹⁸ Thus, Campaign 28 is evidence only that Boeing's refusal to cut prices as far as Airbus caused it to lose sales.

1150. The EC also asserts that alleged lost sales in in Campaigns 25 (EC Campaign Annex F, Section II.B), 26 (EC Campaign Annex F, Section II.A), and 27 (EC Campaign Annex F, Section II.C) provide evidence of price suppression. With regard to Campaign 25, the documents cited by the EC contradict the story it tells in paragraph 1605. Paragraphs 147- 155 of the U.S. Campaign

¹³⁹⁵ ECFWS, para. 1593.

¹³⁹⁶ U.S. Campaign Annex, paras. 149-150 (Campaign 25), 157 (Campaign 26), 163 (Campaign 27), and 169 (Campaign 28).

¹³⁹⁷ ECFWS, para. 1604.

¹³⁹⁸ U.S. Campaign Annex, para. 168.

Annex provide a detailed refutation of the EC’s assertions. [***]¹³⁹⁹ [***]¹⁴⁰⁰ Thus, there is no basis for attributing the A340 pricing in this campaign to the “price effects of the alleged subsidies.

1151. The EC’s assertion that Campaign 26 shows evidence of price suppression is also unfounded. In fact, [***]¹⁴⁰¹ [***]¹⁴⁰² [***]¹⁴⁰³ Thus, the EC has provided no evidence to support its assertion that 777 prices suppressed A340 prices.

1152. As for Campaign 27, the EC argues that the reference point for negotiations was set by “Boeing’s subsidy-enhanced pricing levels for 777 LCA” in Campaign 25.¹⁴⁰⁴ This is an odd assertion, considering that [***]¹⁴⁰⁵ Nevertheless, the evidence provided in the U.S. Campaign Annex shows that [***]¹⁴⁰⁶ [***]¹⁴⁰⁷

1153. In short, the EC has not met its burden of proof. Article 6.3(c) allows a finding of serious prejudice due to price suppression only if it is “the effect of” the alleged subsidies. The only theory the EC put forward to meet this element of its serious prejudice claim is that the alleged subsidies allowed Boeing to charge lower prices for the 777, and that the lower prices forced Airbus to reduce its own prices for the A340. The EC’s failure to show that 777 prices caused a reduction in prices for the A340 is fatal to its claim, and should end the analysis.

1154. The EC once more tries to use its magnitude and price effects calculations, this time to suggest that alleged subsidization caused price suppression of the A350 Original. (The EC does not allege that these analyses support its conclusions regarding A350 XWB.) But, as we showed in Sections B.5 and B.6.c, the EC’s subsidy magnitude and price effects calculations, in aggregate and especially on a per-plane basis, are invalid. Therefore, the Panel should give no weight to the EC’s calculations.

1155. Finally, as we explained in Section E.4, if there has been any suppression of A330 prices, factors other than subsidization are the cause, and not the U.S. programs identified by the EC. Therefore, the Panel should reject the EC’s claim that the alleged subsidies caused price suppression to the A330.

¹³⁹⁹ U.S. Campaign Annex, paras. 149-150.

¹⁴⁰⁰ U.S. Campaign Annex, paras. 152-154.

¹⁴⁰¹ U.S. Campaign Annex, para. 160.

¹⁴⁰² U.S. Campaign Annex, para. 161.

¹⁴⁰³ U.S. Campaign Annex, para. 161.

¹⁴⁰⁴ ECFWS, para. 1607.

¹⁴⁰⁵ U.S. Campaign Annex, paras. 151-159.

¹⁴⁰⁶ U.S. Campaign Annex, para. 165.

¹⁴⁰⁷ U.S. Campaign Annex, paras. 166, 169.

6. The programs identified by the EC did not cause lost sales of the A340.

1156. The EC provides no credible support for the proposition that the alleged subsidies resulted in lost sales of the A340. (The EC makes no claim of lost sales of the A350 XWB.) The only additional support it offers for these claims is a series of summaries of the claims in its Campaign Annex. In fact, the evidence the submitted by the EC contradicts those assertions, and evidence contained in the U.S. Campaign Annex further proves that the alleged subsidization did not cause lost sales. The EC then continues on to repeat its assertions with regard to the nature, magnitude and price effects of the alleged subsidies. This discussion contains nothing new and, rather than repeat previous arguments, we incorporate analysis set out in Sections E.3, E.4, and E.5, which fully demonstrates that the EC has not set out a *prima facie* case in this regard. This subsection will, therefore, focus on the arguments the EC raises that are unique to its lost sales claims.

1157. The EC makes lost sales allegations with regard to three campaigns, claiming that the Airbus lost each sale because “Boeing offered its 777 LCA at a net price that was lower than what Airbus was reasonably able to offer for its 340 family LCA.”¹⁴⁰⁸ The facts show otherwise.

1158. The EC is partially correct in its assessment that Campaign F-II-C [***]¹⁴⁰⁹ However, it was Airbus’ [***], not Boeing’s, that drove the process. The customer told Boeing that the A340 price [***]¹⁴¹⁰ Contrary to the EC’s view, Boeing’s [***].¹⁴¹¹ Moreover, the EC’s own HSBI documents contradict the assertions made by the EC with regard to this campaign. Paragraphs 159 - 166 of our Campaign Annex discuss that information in detail.

1159. The EC also argues, contrary to its own evidence, that 777 pricing determined the outcome of Campaign 26. In that campaign, [***]¹⁴¹² [***]¹⁴¹³ Thus, the EC has provided no evidence to support its assertion that 777 prices suppressed A340 prices.

1160. The EC does not discuss Campaign 25 in the body of its written submission, but the evidence leaves no doubt that Airbus suppressed prices by undercutting Boeing,¹⁴¹⁴ [***]¹⁴¹⁵ [***]¹⁴¹⁶ [***] Moreover, the EC’s own HSBI contradicts the assertions made by the EC with

¹⁴⁰⁸ ECFWS, para. 1615.

¹⁴⁰⁹ ECFWS, para. 1614.

¹⁴¹⁰ U.S. Campaign Annex, para. 163.

¹⁴¹¹ U.S. Campaign Annex, paras. 163-165.

¹⁴¹² U.S. Campaign Annex, para. 156.

¹⁴¹³ U.S. Campaign Annex, para. 157.

¹⁴¹⁴ U.S. Campaign Annex, para. 149.

¹⁴¹⁵ U.S. Campaign Annex, para. 150.

¹⁴¹⁶ U.S. Campaign Annex, paras. 152-154.

regard to this campaign. Paragraphs 151 to 159 of the U.S. Campaign Annex discuss that information in detail.

1161. In short, the EC has not met its burden of proof. Article 6.3(c) allows a finding of serious prejudice with regard to lost sales only if they are “the effect of” the alleged subsidies. The only theory the EC has put forward to meet this element of its serious prejudice claim was that the alleged subsidies allowed Boeing to charge lower prices for the 777, and that the lower prices caused Airbus to lose sales. However, the evidence shows that Airbus did not lose an A340 sale because of Boeing prices in any of the campaigns cited in the EC Campaign Annex. The EC’s failure to show that 777 prices caused Airbus to lose these three sales is fatal to its claim, and should end the analysis.

1162. In any event, the EC has also failed to meet its burden of proof for the other step in its chain of reasoning, as it has not shown that the alleged subsidies caused prices for the 777 to be lower than they otherwise would have been. The EC attempts to create such a link by arguing that the difference between Boeing and Airbus final offers in certain campaigns were “less than the magnitude or estimated price effects” of the alleged subsidies.¹⁴¹⁷ This reasoning contains several flaws. *First*, the EC’s conclusions about the difference between Boeing and Airbus prices [***].¹⁴¹⁸ *Second*, as we pointed out above, the EC’s attempts to quantify the magnitude and estimated price effects greatly overstate any possible benefit of the U.S. programs, especially with regard to the per-aircraft calculations, and cannot form the basis for any meaningful comparison with the difference between the companies’ final offers. *Third*, the EC has provided no basis for concluding that in the absence of the alleged subsidization, the price offered by Boeing would increase by the margin of “price effects” – even if that figure were calculated correctly.¹⁴¹⁹ *Fourth*, the EC admits that buyers of large civil aircraft consider a number of factors in their purchasing decision. It has provided no basis to conclude that the price increases predicted under the EC calculation (which are themselves exaggerated) would change the result of any of the cited campaigns. Therefore, the EC’s comparison of its calculated subsidy magnitudes and “price effects” of the subsidies with differences between final offers does not support the conclusion that those sales would have been taken by Airbus.

1163. In conclusion, the EC’s assertion that alleged subsidization of the 777 caused lost sales of the A340 is contrary to the evidence. The Panel should accordingly reject this element of the EC’s claims.

7. *The programs identified by the EC did not displace or impede exports of the A340 into a third country market.*

¹⁴¹⁷ ECFWS, para. 1616.

¹⁴¹⁸ U.S. Campaign Annex, paras. 149-150 (Campaign 25), 157 (Campaign 26), 163 (Campaign 27), and 169 (Campaign 28).

¹⁴¹⁹ ECFWS, para. 1321.

1164. The EC’s arguments regarding displacement and impedance of exports of A340 into third country markets consist of little more than a few tables and accompanying text that acts essentially as captions. (The EC makes no displacement or impedance allegation with regard to A350 XWB.) But even this short discussion is riddled with errors.

1165. The central flaw is that the EC addresses the wrong issue. It presents its claims in terms of “displacement or impedance” of *orders* for aircraft *by companies headquartered in the company subject to the allegations*. As we explained above in Section B.10, however, Article 6.4(a) and (b) define serious prejudice for this purpose in terms of displacement or impedance of, respectively, “imports . . . into the market of the subsidizing Member” and “exports . . . from a third country market.” Thus, there must be an import or export – the movement of a physical product across a border – to trigger Article 6.3 (b). First, although orders may lead to imports or exports, they are not the same as imports or exports. An order does not necessarily result in an import or export, as the customer may cancel or defer a delivery to an indeterminate time in the future. Second, an order by a company headquartered in a country does not equate with an import or export into that country. For example, a leasing company could decide to have the aircraft delivered to a different country altogether, in which case the order would never become an import or export, in the country of the headquarters. Therefore, an analysis of displacement or impedance of *orders* simply does not address the standard set out in Article 6.4(a) or (b).

1166. Nonetheless, the EC presents all of the data in support of its claims regarding displacement and impedance in terms of *orders* each year from 2000. It presents data on neither imports and exports nor deliveries, which are the best proxy for imports and exports in this industry. The EC’s failure to submit the relevant information by itself means that the EC has failed to meet its burden of proof.

1167. The EC also fails in its arguments on displacement and impedance in third-country markets. As an initial point, it has failed to identify *any* third country market in its allegations – the table in paragraph 1624 names the countries only by reference to non-existent sections of the EC 777 Campaign Annex.¹⁴²⁰ Moreover, although the EC presents each individual country as a separate market for purposes of its analysis, the 2000-2006 time period simply does not provide enough data to reach any conclusion about how competition for sales from customers based in those countries developed. The EC concedes as much elsewhere in its submission, when it states that “{t}he Panel should be cautious in considering market-share data from individual countries for specialized and expensive capital goods such as LCA.”¹⁴²¹

1168. This is particularly true for the EC’s 777 displacement or impedance claim, as delivery data is meager at best. [***] All told, there is far too little information to reach any conclusion as to whether Airbus exports have suffered displacement or impedance.

¹⁴²⁰ The table references [***]

¹⁴²¹ ECFWS, para. 1535.

1169. The EC also presents a table showing figures for orders by all third countries in the aggregate. The table shows merely that Boeing began the 2000-2006 period with between 88 and 95 percent of total 777/A340 orders, and ended the period with between 92 and 98 percent of total orders. This pattern indicates not displacement or impedance because of 777 pricing, but the fact that under normal conditions the 777 sells better because customers generally regard it as a better, more economical aircraft to operate. If anything, the data suggest that it was the A340 that displaced 777 orders in 2002 and 2003, before rising aviation fuel costs made conditions increasingly *unfavorable* for the A340 between 2004 and 2006, and the situation returned to the *status quo ante*.

1170. The EC also presents a graph of orders in the world market showing a similar pattern to orders in aggregate third country markets. Once again, this pattern shows not displacement or impedance, but an environment in which the A340 became increasingly unattractive to customers for reasons unconnected with its price.

1171. In fact, use of the proper data – deliveries, rather than orders – reveals that there has been no displacement or impedance in the world market:

	777 deliveries	A340 deliveries	777 share	A340 share
2000	55	19	74%	26%
2001	61	22	73%	27%
2002	47	16	75%	25%
2003	39	32	55%	45%
2004	36	28	56%	44%
2005	40	24	63%	38%
2006	65	24	73%	27%

Source: Exhibit US-372.

These data show that the A340 displaced the 777 in 2003 and 2004, and not the other way around, as the EC alleges. Beginning in 2004, Airbus's deliveries subsided, while Boeing's steadily grew. It is noteworthy that the reason A340 deliveries fell in 2005 and 2006 is that Airbus suffered three order cancellations in each year. In that period, Boeing (with a much larger order backlog) had a net change of zero.¹⁴²² This pattern is consistent with the remainder of the

¹⁴²² "Airbus wins . . . but rival is top dollar," *Flight International* (Jan. 24, 2006) (Exhibit US-359); Max Kingsley-Jones, "Airbus – 'down but not out' as it plots comeback with A330-200F and 350 after orders race loss to

(continued...)

evidence indicating that beginning with the rise in aviation fuel prices in 2004, customers grew more and more disenchanted with the A340.¹⁴²³

1172. Finally, there is the element of causation. Most of the EC’s discussion focuses on changes in orders with regard to particular countries or all third markets. However, Article 6.3(b) requires further that any changes in exports be “the effect of the subsidy.” In its cursory analysis, the only theory the EC puts forward to demonstrate a causal link is that “Airbus lost selected A340 family LCA sales campaigns in third country markets.”¹⁴²⁴ And, the EC states in its Campaign Annex that, for purposes of its displacement and impedance and lost sales claims,

nor does {the EC} challenge many 777 sales where price does not appear to have played the significant role in the customers’ purchasing decision. However, there are particular sales campaigns in which competing prices and the values of offers are decisive. It is these sales campaigns that the European Communities qualifies as “significant lost sales” within the meaning of Article 6.3(c) of the *SCM Agreement*. Each of those lost sales {i.e., Campaigns 25, 26, and 27} is discussed below.¹⁴²⁵

This concession, by its very terms, has two consequences, that preclude any finding of displacement or impedance.

1173. First, by challenging only Campaigns 25, 26, and 27 for purposes of displacement or impedance and lost sales, and identifying the lost sales as the sole causal link with the alleged subsidies, the EC rests its entire displacement/impedance claim on those three campaigns. The United States incorporates Section E.6 above, which demonstrates that the outcome of those campaigns is not attributable to the alleged subsidies’ effects, as rebuttal to the EC’s displacement/impedance claims.

1174. Second, the EC has conceded that it is not attempting to meet its burden of proof with reference to data unrelated to Campaigns 25, 26, and 27. Accordingly, its sole causation argument with regard to all third countries is based on just those campaigns and their [***] volume of orders.

¹⁴²²(...continued)

Boeing, *Flight International* (Jan. 24, 2007) (Exhibit US-358).

¹⁴²³ Airbus’s order backlog statistics further support this conclusion. Between 2005 and 2006, Airbus’ order backlog (the number of orders that have not been delivered) increased on almost all Airbus aircraft. The only exceptions were the A300 and A310 (which had been terminated), the A318 (a model with very limited appeal) and the A340. That the A340 backlog was headed in the same direction as Airbus’ defunct models is a telling sign of increasing customer dissatisfaction.

¹⁴²⁴ ECFWS, para. 1628.

¹⁴²⁵ ECFWS, Ann. F at para. 3.

1175. The EC also cites to all of the arguments made with regard to price suppression and lost sales, and incorporates them into the section, *mutatis mutandis*. In response, we request that the Panel take the explanation we set out in Sections E.5 and E.6 as rebuttal to the EC's claims.

1176. As the EC has neglected to submit the information on imports/exports or deliveries that is relevant to evaluate its claim, the Panel has no basis on which to decide that displacement or impedance has occurred. For this reason, and the other reasons set forth in this subsection, the EC has failed to make a *prima facie* case. The Panel should accordingly reject the EC's arguments in this regard.

1177. As the EC has argued that lost sales allegations with regard to three sales campaigns are the only way in which the alleged subsidies caused displacement or impedance, and we have demonstrated that the outcome is not attributable to the alleged subsidies' effects, its claims must fail. To the extent any data unrelated to these claims could be relevant, the EC has neglected to submit the information on imports/exports or deliveries that would be essential to evaluate its claims, leaving the Panel with no basis on which to decide that displacement or impedance has occurred. The Panel should accordingly reject the EC's arguments.

8. *The programs identified by the EC do not cause a threat of serious prejudice to EC interests with regard to the A340 or A350 XWB.*

1178. The EC's threat of serious prejudice arguments do nothing more than repeat the erroneous assertions made with regard to price suppression, lost sales, and displacement/impedance of orders for 2004-2006, and claim that they demonstrate a threat of serious prejudice. As we explain in Section B.11, threat of serious prejudice exists only if there are multiple indications that a "bad outcome," namely, serious prejudice, is "imminent." Threat of serious prejudice is usually only relevant if a complaining part has failed to show an existing serious prejudice, but has shown that there are multiple indications that the existing non-prejudicial situation will evolve in the imminent future to a state of serious prejudice.

1179. The EC has failed to carry this burden. First, the entirety of the EC's threat of serious prejudice argument consists of unsupported assertions that the current situation for Airbus is going to "continue" in the future.¹⁴²⁶ However, as we have shown, the alleged subsidization of the 777 did not cause serious prejudice to the 2004-2006 period highlighted by the EC. In the absence of any new information – and the EC presents none – the continuation of the existing situation is not likely to change to serious prejudice. Thus, the EC's arguments on their face indicate that the alleged subsidies pose no threat of serious prejudice.

1180. Second, the EC has provided absolutely no support for its assertion that the current situation is likely to "continue." In fact, every indication is that it is likely to *improve* for Airbus, thereby belying any notions of threat. Airbus CEO Louis Gallois recently stated that "{w}e are

¹⁴²⁶ ECFWS, paras. 1449-1451.

on the way to recover, with our new organisation, the launch of the (long-haul) A350, the perspective of delivering the A380 to Singapore Airlines and the first concrete savings of Power8.”¹⁴²⁷ Airbus has told investors that the Power8 plan “will make Airbus better prepared to face the challenge of the US Dollar weakness, increased competitive pressure, the financial burden related to the A380 delays, as well as to meet its other future investment needs.”¹⁴²⁸ And, the company has already announced firm orders for 154 A350 XWBs.¹⁴²⁹ Therefore, while Airbus continues to face challenges, the situation is plainly improving.

1181. The EC also presents a series of arguments based on the notion that future *deliveries* of aircraft ordered during the 2004-2006 period will experience serious prejudice as a result of the alleged subsidies. However, reciting *mutatis mutandis*, as the EC tries to do, does not transmute arguments regarding past orders into a *prima facie* case of threat of serious injury for future deliveries. Some of the 2007-2010 deliveries in the threat of serious prejudice section will result from orders made before 2004 or after 2006, the period for which the EC presented evidence. Some of the 2004-2006 orders will not be delivered between 2007 and 2010. (Some may not be delivered at all if customers keep cancelling A340 orders.) Second, those deliveries will be made under different market conditions than existed in the 2004-2006 period. Having resolved the difficulties that recently bedeviled the A380 and launched a reorganization, Airbus shows every sign of strengthening. The launch of the A350 XWB, with new technology, will make it unnecessary for Airbus to rely on the fuel-profligate A340 to compete against the 777.

1182. This general refutation of the EC’s threat of serious prejudice arguments, along with rebuttals in previous sections of arguments that the EC incorporates “*mutatis mutandis*” in its threat section, demonstrate that the EC has failed to make a *prima facie* case. The Panel should accordingly reject the EC’s claims in this regard. The following sections address a limited number of points specific to the individual allegations of serious prejudice.

- a. *The EC has not made a prima facie case that the alleged subsidization causes a threat of serious prejudice to future orders of the A350 XWB.*

1183. The only claim the EC makes with regard to future *orders* of A350 XWB is that they will undergo significant price suppression. It does not claim a threat of lost sales or displacement/impedance with regard to future orders. The EC’s arguments rest almost exclusively on the notion that the continuation of “price effects” from the 2006-2008 period poses a threat of price suppression. We demonstrated in paragraphs why that is not the case, and will not repeat that analysis here. The EC does make a few additional, although equally unconvincing, arguments.

¹⁴²⁷ “Airbus head sees brighter skies ahead,” *AFP News brief* (June 5, 2007) (Exhibit US-331).

¹⁴²⁸ Airbus, *aero-notes*, p. 6 (May 2007) (Exhibit US-328).

¹⁴²⁹ Airbus Press Release, “Renewed momentum for Airbus’ leading products, and Paris Air Show with 425 firm orders” (June 22, 2007) (Exhibit US-377).

1184. The EC claims that the magnitude of the alleged subsidies is “large” both in absolute and *ad valorem* terms. As we showed in Section B.5, the EC greatly overstated the magnitude figures, and its methodology for calculating per-aircraft *ad valorem* rates is completely unreliable. Therefore, the EC’s assertions regarding magnitude do not support its claim that the alleged subsidies cause a threat of significant price suppression.

1185. The EC also posits that the conditions of competition for the 777 and A350 XWB are identical to those it asserted for the 777-A340 match-up,¹⁴³⁰ and that the supposed lost sales and price suppression of the A340 foretell the same for the A350 XWB.¹⁴³¹ However, the whole point of launching the A350 XWB was to fix the problems of the A340. It is already clear that the A350 XWB has received an entirely different reception from customers than the A340 did. The firm orders for 154 A350 XWB posted through June 2007 since the product’s launch in December 2006 are more than the A340 ever obtained in a single year. (The record for the A340 was 48 orders.)¹⁴³² Moreover, Airbus’ recent firm orders for 80 A350 XWB-900s and -1000s from two customers are greater than all 777 firm orders for the first half of 2007.¹⁴³³ Therefore, the A350 XWB (and the 777) face an entirely different competitive landscape in the future. The EC’s claims of future price suppression, based as they are on the supposition that everything will stay the same, accordingly fail to make a *prima facie* case.

b. *The EC has not made a prima facie case that alleged subsidization causes a threat of serious prejudice to future deliveries of A340.*

1186. The remainder of the EC’s threat of serious prejudice argument consists of a series of conditional claims, which it asks the Panel to address only in the event of a finding “that A350 orders booked during the 2004-2006 period cannot serve as the basis for the EC’s present serious prejudice claims.”¹⁴³⁴ The United States is also of the view that orders are the proper basis for evaluating price suppression and lost sales. Therefore, we agree that it is not necessary for the Panel to address the EC’s threat of price suppression and threat of significant lost sales arguments. Should the Panel nonetheless decide to address these claims, it should note that the EC uses the same arguments it raised with regard to orders of the A340. It even goes so far as to incorporate those arguments *mutatis mutandis*. Accordingly, the Panel should look to the response to the incorporated arguments in Section E.2 through E.7 as our rebuttal to paragraphs

¹⁴³⁰ ECFWS, para. 1636.

¹⁴³¹ ECFWS, para. 1638.

¹⁴³² *Compare* Airbus Press Release, “Renewed momentum for Airbus’ leading products, and Paris Air Show with 425 firm orders” (June 22, 2007) (Exhibit US-377) *with* Orders of 777 and A340, 1990-2006 (Exhibit US-364).

¹⁴³³ *Compare* Airbus Press Release, “Qatar Airways confirms order for 80 A350 XWBs and adds three A380s” (June 18, 2007) (Exhibit US-359), *and* Airbus Press Release, “Singapore Airlines signs contract for 20 A350 XWB” (June 22, 2007) (Exhibit US-360), *with* Boeing – Orders through June 26, 2007, *available at* <http://active.boeing.com/commercial/orders/index.cfm> (last visited June 30, 2007) (Exhibit US-361).

¹⁴³⁴ ECFWS, para. 1455.

1640-1651 of the EC submission. That analysis, along with the further comments in this subsection, demonstrate that the EC has failed to make a *prima facie* case of threat of price suppression or lost sales.

1187. With regard to the EC’s argument regarding threat of displacement/impedance of imports and exports, however, orders are not the proper basis for an analysis. If the Panel agrees with the United States on this point, the condition for activating the EC conditional claim will be triggered. However, the EC’s claim in this regard is fatally flawed.

1188. Most importantly, the EC has presented *no* data on deliveries, either present or future. It is not enough simply to assert, as the EC does, that future deliveries will suffer the same fate as past orders. We have shown that those orders were neither displaced nor impeded by the alleged subsidies. (We incorporate our analysis in Section E.7 as rebuttal to the arguments that the EC incorporates, *mutatis mutandis*, in paragraph 1650 of its first written submission.) In addition, if future deliveries of the A340 are displaced or impeded, it will be by the A350 XWB. As we have shown, customers are already cancelling orders of the gas-guzzling A340 in numbers that are huge relative to A340 demand – ten percent of deliveries in 2005 and 2006.¹⁴³⁵ Now that the A350 XWB is available, customers who want large twin-aisle Airbus aircraft have an incentive to seek it.

1189. Therefore, the EC has failed to demonstrate the existence of a threat of displacement or impedance of exports of the A340 to a third country market or markets.

* * * * *

1190. In conclusion, the EC has failed to show that the alleged subsidies cause serious prejudice to the interests of the European Communities, within the meaning of Articles 5(c), 6.3(b), or 6.3(c). More specifically, the EC has not shown that the alleged subsidies cause significant price suppression with respect to orders or deliveries of the A340; significant lost sales with respect to orders or deliveries of the A340; displacement or impedance with respect to orders or deliveries of the A340; or threat of significant price suppression with respect to orders of the A350 XWB.

F. The 1992 Agreement Does Not Create Legal Obligations under the SCM Agreement.

1191. The EC asserts that its unilateral determination that the United States violated the **bilateral** *Agreement Concerning the Application of the GATT Agreement on Trade in Large Civil Aircraft* (“1992 Agreement”) constitutes serious prejudice for purposes of the **multilateral** SCM

¹⁴³⁵ “Airbus wins . . . but rival is top dollar,” *Flight International* (Jan. 24, 2006) (Exhibit US-359); Max Kingsley-Jones, “Airbus – ‘down but not out’ as it plots comeback with A330-200F and 350 after orders race loss to Boeing,” *Flight International* (Jan. 24, 2007) (Exhibit US-358).

Agreement.¹⁴³⁶ The EC cites no valid authority for this proposition and, in fact, the EC’s approach would require the Panel to disregard not only the text of the SCM Agreement but also the relevant articles of the DSU. The EC insists that this claim is a separate ground of serious prejudice that the Panel must address. We agree that the Panel should address this claim, but only to reject it.

1192. The EC’s claim with respect to the 1992 Agreement fails for two reasons. First, because the 1992 Agreement is not a “covered agreement” for purposes of the DSU, the Panel’s terms of reference do not permit the Panel to examine a claim based on an alleged breach of that agreement. Second, the EC’s claim fails because it is based on a theory relating to the rule of treaty interpretation set out in Article 31.3(c) of the Vienna Convention on the Law of Treaties (“Vienna Convention”), even though, by the EC’s own reasoning, that rule has no relevance in this context, inasmuch as the EC’s argument is not about treaty interpretation but about which treaty provides the relevant substantive rules. The EC pays lip service to the proposition that the Panel should consider the 1992 Agreement because it would aid in interpreting the SCM Agreement. However, what the EC really seeks to have the Panel do is apply the 1992 Agreement as substantive law rather than as a basis for interpreting the SCM Agreement. Indeed, the EC does not even bother to specify any term in the SCM Agreement whose meaning would be informed by the 1992 Agreement.

1. *The 1992 agreement is not a “covered agreement” and is therefore outside the Panel’s terms of reference*

1193. Article 1.1 of the DSU states that the “rules and procedures of this Understanding shall apply to disputes brought pursuant to . . . the agreements listed in Appendix 1 to this Understanding (referred to in this Understanding as the “covered agreements”).” The 1992 Agreement is not a covered agreement under Article 1.1 of the DSU. Accordingly, there is no basis for the Panel to examine the EC’s claim. The DSU cannot be used to examine any question of compliance with the 1992 Agreement or the interpretation or application of the 1992 Agreement.

1194. The Panel’s terms of reference in this dispute confirm that the EC’s claim with respect to the 1992 Agreement is outside the Panel’s terms of reference. The Panel’s terms of reference track the standard terms of reference set out in Article 7.1 of the DSU, namely,

To examine, in the light of the relevant provisions of the *covered agreement(s)* cited by the European Communities in document WT/DS353/2, the matter referred to the DSB by the European Communities in that document, and to make such findings as will

¹⁴³⁶ ECFWS, paras. 1016-1055. By responding to the EC’s arguments with respect to the 1992 Agreement, the United States does not endorse the EC’s characterization of the agreement or the related events. However, the United States will not address in detail the EC’s characterization of the 1992 Agreement or related events, because the EC’s argument is without merit.

assist the DSB in making the recommendations or in giving the rulings provided for in *that/those agreement(s)*.¹⁴³⁷

The 1992 Agreement is not one of the covered agreements.¹⁴³⁸ Thus, there is no basis for the Panel even to reach the EC's claim with respect to the alleged breach of the 1992 Agreement.¹⁴³⁹

2. *Article 31.3(c) of the Vienna Convention is irrelevant, because the EC does not invoke the 1992 Agreement to interpret a covered agreement.*

1195. At the outset, the EC sets forth a claim that the alleged breach of the 1992 Agreement constitutes serious prejudice under the SCM Agreement. In other words, in the EC's view, the 1992 Agreement contains substantive obligations relevant to settlement of this dispute; by allegedly breaching those obligations, the EC contends, the United States breached an obligation under the SCM Agreement. However, the EC presents its theory by contending that the 1992 Agreement "constitute {s} context for the interpretation of the SCM Agreement in this

¹⁴³⁷ WT/DS353/3 (footnote omitted). Other provisions of the DSU that confirm that the EC's claim is outside the purview of this proceeding include Article 11, which states that "a panel should make an objective assessment of the matter before it, including an objective assessment of the facts of the case and the applicability of and conformity with the relevant covered agreements" (emphasis added); Article 3.2, which states Members' recognition that the WTO dispute settlement system "serves to preserve the rights and obligations of Members under the covered agreements;" Article 3.4, which contemplates "achieving a satisfactory settlement of the matter in accordance with the rights and obligations under this Understanding and under the covered agreements;" and Article 19.1, which prescribes the recommendation to be made "{w}here a panel or the Appellate Body concludes that a measure is inconsistent with a covered agreement." (emphases added.)

¹⁴³⁸ In fact, in its request for the establishment of the Panel, the EC conceded that the 1992 Agreement is not a covered agreement stating "{t}he above measures are neither justified under any provision of a covered agreement, including the *Agreement on Trade in Civil Aircraft*, nor under the *1992 Agreement between the European Communities and the Government of the United States of America concerning the application of the GATT Agreement on Trade in Civil Aircraft on trade in large civil aircraft*." (emphasis added.)

¹⁴³⁹ The EC claims that there is a "link" between the 1992 Agreement and the WTO Agreement because "the Uruguay Round included the 1979 Agreement in the list of covered agreements under Annex IV to the WTO Agreement." The EC never explains the legal significance of a "link" (nor could it since it would have none). In any event, contrary to the EC's assertions, the 1979 Agreement is not a "covered agreement" under the DSU. Appendix 1 to the DSU identifies the 1979 Agreement, or Agreement on Trade in Civil Aircraft ("ATCA") as a plurilateral agreement that could be subject to the DSU. However, such coverage was made "subject to the adoption of a decision by the parties . . . setting out the terms for the application of the {DSU} to the {ATCA}." No such decision has been adopted; thus, the EC's claim that the ATCA is a "covered agreement" within the meaning of Article 3.2 of the DSU is erroneous.

dispute.”¹⁴⁴⁰ (Emphasis added.) The EC asserts that Article 31.3(c) of the Vienna Convention is the “legal rule” supporting this claim. The EC’s theory is wholly without merit.

1196. Article 31.3(c) of the Vienna Convention provides that in interpreting treaties, “{t}here shall be taken into account, together with the context . . . any relevant rules of international law applicable in the relations between the parties.” (Emphases added). However, in attempting to bring the 1992 Agreement into the Panel’s terms of reference, the EC is not alleging that the 1992 Agreement assists in interpreting the serious prejudice provisions of the SCM Agreement. Rather, the EC is merely alleging that a breach of the 1992 Agreement itself constitutes serious prejudice under the SCM Agreement. In other words, the EC would like the Panel to apply the 1992 Agreement as a matter of substantive law.

1197. Accordingly, the EC’s reliance on the customary rule of interpretation reflected in Article 31.3(c) is misplaced and irrelevant to the Panel’s examination of the EC’s claim. As a result, the Panel need not consider the other flaws in the EC’s citation to Article 31.3(c), including the fact that not all WTO Members are parties to the 1992 Agreement, and indeed neither the United States nor the EC is any longer a party to the 1992 Agreement since it is no longer in force. And the Panel need not consider whether the 1992 Agreement is “applicable” in the relations between “the parties” since it is no longer in force.

CONCLUSION

1198. For the foregoing reasons, the United States requests the Panel to find that the United States has acted consistently with its obligations under the SCM Agreement and to deny the relief requested by the EC.

¹⁴⁴⁰ The United States notes that the EC appears to conflate two arguments with respect to the 1992 Agreement. The EC first argues that the 1992 Agreement is a source of substantive law such that a breach of the 1992 Agreement constitutes serious prejudice under the SCM Agreement. The EC does not provide any discussion of the legal standard for a finding of serious prejudice under the SCM Agreement. The EC then argues that Article 31.3(c) of the Vienna Convention is the legal rule supporting the view that the 1992 Agreement constitutes “context” for the SCM Agreement. Even if the 1992 Agreement were context for the SCM Agreement, that contention is unrelated to whether the 1992 Agreement is a source of substantive law under the SCM Agreement. Nevertheless, the EC presents these two contentions as if they are part of the same argument.