

787 delay may affect 777F flight testing; concern over 747-8 impact

The six month delay in the Boeing 787 flight testing may affect the flight test program for the Boeing 777-200F, Leeham.net learned. In addition, customer concerns emerged that the delays in the 787 program will affect development and on-time delivery of the 747-8. In brief statements, Boeing says both programs are unaffected by the 787 delays.

We're told flatly that the revised 787 test program directly overlays the timetable for the 777F and Boeing doesn't have enough test pilots to handle the aggressive 787 schedule of six airplanes and simultaneously do the 777F testing. We're also told engineering resources have been diverted from the 747 program and the delay in flight testing may affect the GENx engine data common to the 787 and 747 programs, an early 747-8 customer worries.

The 777F is scheduled for delivery in the third quarter 2008 and the 747-8F is scheduled for delivery in September 2009.

"With respect to your request for comment about possible impact to or delay of the 777 Freighter and 747-8 programs due to the schedule slide for the 787 program, we have the following responses," Boeing wrote in a statement:

- "Despite the 787 schedule change, we remain on track for our first delivery of the 777 Freighter in the fourth quarter of 2008;
- "Likewise, the 747-8 Freighter remains on schedule to deliver in late 2009."

"Whether I'm justifiably concerned, I don't know yet," a customer for the 747-8F tells us. Boeing officially says the 787 delays won't impact other programs, but this customer notes that engineering resources on the 747 and 777F programs have been diverted to the 787. "We're still talking about not insignificant work on systems and everything that I've heard is this is still a large issue," this customer tells us.

The three programs all need the same resources, the customer says. The diversion of systems engineers from the 777F to the 787 remains a concern, according to a customer for this airplane.

The 777F is the closer-in program and we're told the flight testing schedule originally was sequenced after the 787 flight program. Now they overlap and we're told there aren't enough test pilots to accommodate both testing programs simultaneously.

The 777F flight test timing is now under evaluation by Boeing, we're told. "Priorities are going to have to be set," we're told by a source close to the situation.

While the 747-8F program follows the 777F, the concern—in addition to diverting systems engineers—is data generation, analysis and sharing of the GENx engines common to the 747 and 787. The customer acknowledges that there are differences between the two engines, notably that the 787 GENx is a non-bleed engine while the 747's GENx is a bleed version. There are other differences as well, but this customer says, "there is no way there is no relationship" in the data that will be generated by flight testing. "Now, we're six months late" in the test program and this customer is worried 747 deliveries could be pushed back as well.

When the order by Lufthansa German Airlines was announced early this year for the 747-8I passenger version, a newspaper noted at the time, "The General Electric GENx-2B67 to be used on the Boeing 747-8 is closely related from the technical point of view to the engines for the Boeing 787."

"You need the evaluation," the customer adds. "I think it's going to be a challenge. Our impression is that nobody's declared a problem for the 747 because they haven't reached milestones. At best, Boeing is struggling to maintain schedule. At worst, they will be behind and they will have to take some action."

Meantime, the program vice president for the 747, Dan Mooney, left his position recently after little more than one year on the job. Boeing had this to say about Mooney's departure:

"Dan accepted an offer as the vice president of Regulatory Affairs about a month ago. He is replacing Chet Ekstrand, who is retiring. Dan brings strong experience working with the FAA, as well as aviation trade associations and professional societies in Washington, D.C. The position is a perfect fit for Dan's expertise and background," Boeing said.

"To maintain program continuity, Ross Bogue (vice president/general manager-747/767/777 Programs and Everett Site) assumed day-to-day leadership of the 747 program."

Only time will tell if the customer concerns are valid.

World Trade Disputes

Airbus and Boeing traded barbs again last week over the international trade disputes over "illegal" subsidies to the respective companies. Boeing published an Op-Ed in *The Seattle Times* in response to an earlier one in the same paper from a consultant to Airbus. Then CEO Allan McArtor of Airbus North America made a speech before the National Press Club in Washington (DC). *The Times* piece and McArtor's speech are linked to our web site. (The earlier Airbus piece was similar to one issued in July; we previously linked the July piece so we did not add the more recent Op-Ed.)

Through AirInsight, with which we are affiliated, we did a podcast with McArtor the day of his Press Club speech. This is also linked. We invited Boeing to do a podcast as well, but Boeing declined.

McArtor urged a negotiated settlement and said both sides get aid, adding it was time to stop the histrionics. We agree, and have been saying so for the last year or two. McArtor also said that the reason the dispute remains alive today is because Boeing wants to keep it alive as long as the competition for the KC-X aerial tanker is open. Boeing and Airbus (through Northrop Grumman) are competing for this \$40 billion contract. We've been saying this for the better part of a year, too.

Boeing denies that it takes any "illegal" subsidies and doesn't benefit from other contracts from NASA and the Department of Defense.

First, Boeing's denial of benefits for its products simply is incorrect. Boeing ignores that it asked for and received direct government launch aid for its 2707 Super Sonic Transport during the Nixon administration until Congress finally terminated the aid.

Second, Boeing a decade ago attempted to create a commercial version of the troubled V-22 Osprey that has been paid for with Defense Department dollars. More recently, Boeing has suggested making the V-22 into some sort of corporate executive transport. The V-22 is still developed with taxpayer dollars.

Third, Boeing just this year, for at least the second time since acquiring McDonnell Douglas in 1997, proposes to create a commercial version of the C-17 air force cargo plane, another aircraft developed with taxpayer dollars.

Fourth, Development of the 747 benefited from taxpayer-supported research and development of the Boeing competition for the C-5 contract in the 1960s.

Fifth, Boeing Commercial Airplanes President Scott Carson admitted that the 787 benefits from composite technology developed for the B-2 bomber. We're also told by Boeing that the solution for the lightning strike issue on the 787 rests in the B-2 technology. We understand that by law, commercial projects aren't supposed to benefit from military-funded technology. Boeing lawyers were several months ago trying to figure out how to transfer the technology from the B-2 program to the 787, we're told.

Ancient history shows that the Boeing Stratoliner and Boeing Stratorcruiser were straight-forward developments of the B-17 and B-29 bombers, bombers being obviously funded by War Department tax dollars.

All this is just the tip of the iceberg.

Finally, Airbus launch aid was permitted in the 1992 GATT agreement to which the United States and Boeing agreed, a fundamental point in the whole dispute that Boeing has never really addressed.

We don't like corporate subsidies of any kind, and Airbus and Boeing both benefit from them regardless of how they are structured.

But Boeing's persistent denials of benefit and claims of driven purity on the subject may have just gotten a boost from a third party.

According to an article in the *Toronto Globe and Mail* last week, Canada has intervened in the WTO dispute, siding with Boeing

The article may be found here:

<http://www.theglobeandmail.com/servlet/story/LAC.20071019.RAIRCRAFT19/TPStory/Business>

According to the *Globe and Mail*:

Earlier this month, Canada quietly filed what's called a third-party submission in the WTO case launched by the European Union, which alleges the U.S. gave illegal subsidies to Boeing.

Ottawa is trying to quash an EU effort to expand the definition of what's considered a subsidy, saying the outcome of this WTO case could have a big impact on Canada.

"The findings of the panel ... will have important consequences for the future development and production of civil aircraft," Ottawa wrote.

It was only a few years ago that a battle between Canada and Brazil over alleged subsidies to Bombardier and Embraer SA ended in a draw, and Ottawa has no enthusiasm to be exposed to new challenges from Brazil.

Ottawa believes any eventual ruling on the Boeing-Airbus dispute "will establish case law with respect to government support for the aircraft sector."

The EU is challenging patents, trade secrets and other intellectual property owned by Boeing, alleging these are subsidies because their development benefited from government-funded research. It's also arguing that some infrastructure projects near Boeing's Everett, Wash., facility are subsidies because they were built with state funds.

We obtained a copy of the Canadian filing and linked it to our website under Reports/Studies. Thanks to the *Globe and Mail* for providing this. We also found a couple of other WTO-related items dated a few months ago and posted these as well.

Both sides benefit and both sides are probably guilty of "illegally" pushing the envelope. But as long as the KC-X competition is open, Boeing won't negotiate a settlement despite statements that it wants to.

Cold soaking the 787

Following the delays of the Boeing 787 announced on October 10, questions arose in several quarters whether the revised first-flight of March/April 2008 and summer-time flight test schedule would enable Boeing to conduct the cold-soak tests required for certification.

The usual venue, in the Arctic, wouldn't be cold enough. Sustained temperatures of -30 degrees Centigrade (about -25F) are required. Observers wondered where an airport in the Southern Hemisphere might be available. Boeing didn't address the issue, except a generalized statement to the *Seattle Post-Intelligencer*, that officials weren't worried. Coming off of months of "What, me worry?" about the possibility of 787 delays, the generalized assurance wasn't, well, reassuring.

We made inquiries and got something quite a bit more specific. Topping the response was, in essence, of all the things Boeing has to worry about in the delayed program, cold soaking is the least of them. More specifically, Boeing believes it can find a location in the Southern Hemisphere that will work and even if it doesn't, it's not uncommon to get limited certification that sets a firm deadline for the cold soak to be accomplished. With delivery of the airplane now set for November or December 2008, this clearly goes into the winter season in the Arctic and cold soak tests can be completed then with no additional disruption to the program even after deliveries begin.

An Air Force One for Airbus?

Flight International reported that the US Air Force requested information from Airbus about the possibility of procuring an A380 for Air Force One.



Flight International

Holy Moley, if you thought the competition for the KC-X between Boeing and Northrop Grumman/Airbus is bitter, the prospect of an A380 Air Force One would make the KC-X fight seem like a Sunday picnic. There is no way Boeing would roll over on this.

We can facetiously envision a bid of Zero dollars from Boeing and Airbus, plus incentives to give the Air Force the KC-X tankers, spares, training and a big check besides. Yikes.

Boeing's KC-767 finishing

Two readers pointed to an error in our report last week about Boeing's finishing plans for the KC-767 in Kansas in connection with the letter sent by more than 60 Members of Congress advocating a sole-source contract. This one suffices:

I believe you have some fact mixed up here. First off, Boeing still has a presence in Wichita KS. This is where the Italy Tanker was modded & is undergoing test flights from. I also believe that it will be Boeing Wichita that will complete the finishing of the KC-767 not Spirit.

Thanks for the correction. The underlying interest in the Kansas delegation protecting Kansas business remains unchanged, even if the players do.

By Scott Hamilton, October 23, 2007