

**Testimony of Stephen Ellis**  
**Vice President of Programs at Taxpayers for Common Sense**  
**before the**  
**Subcommittee on National Security, Veterans Affairs and International Relations,**  
**Committee on Government Reform**  
**April 11, 2003**

Good morning, and thank you Chairman Shays and Congressman Kucinich for inviting me to testify about “Controlling the Costs in Tactical Aircraft Programs,” specifically regarding how the divergence of acquisition policy and practice can result in significantly higher costs and project delays. As the Subcommittee and others have noted, the F/A-22 Raptor acquisition is particularly suited for this discussion, a veritable poster child for some of the problems of putting the weapons production cart ahead of the development and testing horse.

I’m Steve Ellis, Vice President of Programs at Taxpayers for Common Sense(TCS), a national non-partisan budget watchdog group. In the six years my organization has been watching this program, the F/A-22 acquisition has experienced \$17.7 billion in production cost growth<sup>1</sup> with an overall development and production cost of \$58.7 billion<sup>2</sup>, if the Pentagon adheres to congressionally mandated limits. The current cost of an F/A-22 is more than \$260 million per aircraft.<sup>3</sup>

The F/A-22 was first conceived in the 1980s to be a replacement for the F-15, with some air-to-ground capabilities added later. The unprecedented cost increases of this program, coupled with several other factors, including: a reduction in the number of F/A-22s procured; the development of the F-35 Joint Strike Fighter; and the overwhelming air superiority the United States already enjoys; raise a fundamental question: Do we need to continue to pursue acquisition of the F/A-22, or is it unnecessary and redundant?

Although outside the scope of this hearing, this fundamental question is one that must be addressed. The F/A-22 cost overruns are a direct result of a failure to adhere to “fly before you buy” principle, a hallmark of defense acquisition since the Fitzhugh Commission in 1970. The principle was also championed by the Packard Commission in the late 1980s -conduct Operational Testing and Evaluation (OT&E) before moving into full scale production.<sup>4</sup> The Bush administration, the Department of Defense, and Congress need to seriously evaluate whether the F/A-22 is still an essential part of our force mix, or if the billions planned for this program will be better spent elsewhere.

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<sup>1</sup> General Accounting Office. “Tactical Aircraft: DOD Needs to Better Inform Congress about Implications of Continuing F/A-22 Cost Growth” (GAO-03-280). February 28, 2003. p5.

<sup>2</sup> General Accounting Office. “Tactical Aircraft: DOD Should Reconsider Decision to Increase F/A-22 Production Rates While Development Risks Continue” (GAO-03-431). March 14, 2003. p3.

<sup>3</sup> The cost per aircraft is calculated using the a total of 224 F/A-22s that could be procured under Congressionally mandated caps. The 224 figure came from a Under Secretary of Defense Aldridge letter to Rep. John Tierney on Oct. 3, 2001.

<sup>4</sup> Ethan McKinney, Eugene Gholz, and Harvey M. Sapolsky. “Acquisition Reform – Lean 94-03.” Lean Aircraft Initiative – Massachusetts Institute of Technology. May 24, 1994.

The Subcommittee asked me to discuss several points regarding why F/A-22 program costs continue to escalate, how cost overruns can be stabilized, what impacts the schedule delays in developmental testing will have on cost control, and risk factors that may increase future production costs.

### **Why Do F/A-22 Program Costs Continue To Escalate?**

Despite significant congressional oversight reviewing the F/A-22 procurement, and a series of excellent General Accounting Office reports addressing the testing and development failures of the program, the disciplined acquisition procedures embodied by “fly before you buy” have been abandoned in the case of the F/A-22. Until that approach is rectified, cost overruns, system failures, and a lack of performance can be assumed. But, the F/A-22 is not the only example of the impacts of failing to properly test weapons systems. It is just the most recent example of costly Pentagon acquisition and development nightmares like the V-22 and the B-1.<sup>5</sup>

The “fly before you buy” concept was largely initiated in the 1970s, but as the speed of technological advancements have increased, there has been a commensurate and understandable increase in the desire to streamline and accelerate acquisition processes. While streamlining makes sense in some cases, particularly software and C4I (Command, Control, Communications, Computers and Intelligence) systems, the simple fact is that with highly complex assets like the F/A-22, we must take the time to do it right or the program costs will skyrocket.<sup>6</sup> The simple mantra of the carpenter: measure twice, cut once, also applies to aircraft acquisition. But the Air Force’s aggressive production plan for the F/A-22 seems to be cut first and measure later.

In an admirable, but failing, effort to control cost overruns, Congress mandated that F/A-22 production costs not exceed \$36.8 billion. However, current DOD estimates put costs at \$42.2 billion, \$5.4 billion over the cap. Development costs, currently estimated at \$21.9 billion, were also initially capped, but that cap was later removed.<sup>7</sup> While the overall caps have helped limit the damage to the taxpayers pocketbook, they have not stemmed the tide of program cost overruns. The Air Force pursuit of a “buy to budget” strategy reduces contractor incentives to control costs, and essentially guarantees that taxpayer will get fewer aircraft for the money.<sup>8</sup>

DOD has announced \$27.3 billion in program cost reduction plans (PCRP), however, only \$14 billion of these have been implemented to date. A key tool to reducing cost in later production lots are production improvement plans (PIPs), which require an initial government investment to improve production processes, but are predicted to reduce cost

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<sup>5</sup> Project on Government Oversight. “Will We Ever Fly Before We Buy? F-22 Doesn’t Meet Basic Testing Criteria”. January 2, 2001.

<sup>6</sup> RADM John J. Zerr, USN and LT Mike Oldenburg, USN. “Is ‘Fly Before You Buy’ Obsolete? The Need for Rapid but Disciplined Acquisition.” Program Manager. January-February. 1995.

<sup>7</sup> P.L. 107-107, Section 213. December 28, 2001.

<sup>8</sup> Glenn F. Lamartin, Director, Defense Systems Office of the Under Secretary of Defense. Letter to Mr. Allen Li, U.S. General Accounting Office. February 27, 2003.

growth by \$3.7 billion. However, in FY 2001-02, the Air Force had used \$87 million in planned funding for PIPs to offset cost growth in the first two production lots.<sup>9</sup> Like many investments, the earlier the PIP is put in place the greater the return on the investment. By delaying or failing to invest in this improved process, we are guaranteeing that some of the planned savings in future years will not occur.

### **How Can Program Cost Overruns Be Stabilized?**

TCS is concerned that without significantly slowing down and scaling back proposed F/A-22 production levels, stabilizing cost overruns will be impossible. If we are to control F/A-22 costs, we have to step back and potentially pause production, and then ensure that adequate development testing is completed, and problems revealed during testing are resolved. This will save money in the long-term. The DOD response to concerns about accelerating low-rate production despite the continuing development testing problems and cost overruns with the F/A-22 has been wholly inadequate.

To acquire more than 16 aircraft, previous legislation required that DOD submit a formal risk assessment that characterizes the cost, technical, and schedule risks prior to completion of OT&E and certify that increasing production was a lower cost risk than remaining at the limit. In December 2002, DOD announced that they will increase the number of F/A-22s acquired in 2003 to 20 and submitted a risk assessment and certification to Congress.<sup>10</sup>

DOD has argued against scaling back 2003 F/A-22 production levels to the 16 envisioned by Congress, stating that the increased costs of terminating some contracts, inflation, and reduced manufacturing efficiencies outweigh the risks of expensive retrofitting and repair of aircraft and more costly delays.<sup>11</sup> The recent experience of the F/A-22 development and production indicates that we are much more likely to see increased costs, continued development problems, and significant delays. The Air Force posture seems to be little more than a policy of ‘get as many planes as you can, as fast as you can,’ despite the long-term cost risks. This is more of the “buy before you fly” approach that got us into the vicious cycle of cost overruns and project delays in the first place.

DOD concerns about increased costs from contract terminations and inflation pales in comparison to the financial risks of retrofitting aircraft to fix problems revealed in testing, if the problems can even be fixed retroactively. The problems revealed so far in F/A-22 testing are not insignificant, they impair performance and safety. Failure of the avionics dramatically reduces the F/A-22’s capability; buffeting of the vertical tail fins has limited operation under 10,000 feet; heat buildup in rear portions of the aircraft has effectively eliminated supercruise capabilities, forcing the jet to fly only 500 miles per

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<sup>9</sup> General Accounting Office. “Tactical Aircraft: DOD Needs to Better Inform Congress about Implications of Continuing F/A-22 Cost Growth” (GAO-03-280). February 28, 2003. p 7-8.

<sup>10</sup> General Accounting Office. “Tactical Aircraft: DOD Should Reconsider Decision to Increase F/A-22 Production rates While Development Risks Continue” (GAO-03-431). March 14, 2003. p. 4.

<sup>11</sup> Glenn F. Lamartin, Director, Defense Systems Office of the Under Secretary of Defense. Letter to Mr. Allen Li, U.S. General Accounting Office. February 27, 2003.

hour.<sup>12</sup> The cost of fixing these and other problems as they arise through testing will likely be significant, and accelerating production schedules will only increase the already high risk that taxpayers will have to bear a heavy burden of costs to retrofit these aircraft.

### **What Impacts Will The Schedule Delays In Developmental Testing Have On Cost Control?**

Simply put, schedule delays will increase costs. But, the Air Force is adding additional cost risk by increasing production levels before development and operation testing are complete. Delays in aircraft delivery have forced DOD to slip testing schedules. The logical response would be to allow the full testing and production schedule to slip and proceed in the logical order of development testing, leading into operational testing, followed by full scale production. Instead, DOD plans to slip the testing schedule and increase the overlap of development and operational testing, while leaving the timing of the full scale production decision unchanged. The earlier schedule incorporated a three month lag between completion of OT&E and the full scale production decision. The revised DOD schedule places the production decision four months prior to the completion of OT&E.<sup>13</sup> Moving the full scale production process ahead, when operational testing is only half complete, further increases the risks of ever larger cost overruns.

Under the revised schedule, 25 to 30% of the production run of the F/A-22 will be completed prior to the completion of OT&E.

### **What Are The Risk Factors That May Increase Future Production Costs?**

Accelerating production levels before OT&E is complete represents the biggest risk factor for increased production cost. Common sense, as well as recent experience with the F/A-22 and other new weapon systems, has revealed that significant changes and improvements generally result from OT&E. The F/A-22 has not been immune to needed modifications. Development and early production aircraft have generally received more than 50 modifications to improve performance.<sup>14</sup>

An additional factor that will certainly increase production costs is the failure to document all of the production cost growth. The GAO documented nearly \$1.3 billion in F/A-22 production cost growth that DOD did not include in their most recent congressional cost estimates. More than half of this cost increase was incurred because of delays in the F/A-22's production.

While on the one hand, DOD has shifted funding from Production Improvement Plans, on the other hand, Pentagon officials are counting on cost savings from programs like these to keep the F/A-22 acquisition costs below the congressionally mandated level.

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<sup>12</sup> General Accounting Office. "Tactical Aircraft: DOD Should Reconsider Decision to Increase F/A-22 Production rates While Development Risks Continue" (GAO-03-431). March 14, 2003. p. 3-6.

<sup>13</sup> General Accounting Office. "Tactical Aircraft: DOD Should Reconsider Decision to Increase F/A-22 Production rates While Development Risks Continue" (GAO-03-431). March 14, 2003. p. 8-9.

<sup>14</sup> General Accounting Office. "Tactical Aircraft: DOD Should Reconsider Decision to Increase F/A-22 Production rates While Development Risks Continue" (GAO-03-431). March 14, 2003. p. 7.

Additionally, some of the cost reductions seem largely speculative, such as reducing the estimated support costs by \$1.8 billion. DOD's lackadaisical attitude toward future F/A-22 cost increases is troublesome and fiscally irresponsible.

## **Conclusion**

The cost overruns and failures of the F/A-22 acquisition process reinforce the need to rigidly adhere to "fly before you buy" principles regarding development, testing and production.

Additionally, the concurrent engineering and manufacturing development approach employed with the F/A-22 and other weapons systems, merely perpetuates a system where money and power dictates support for a concept or plan before we can evaluate its cost effectiveness and whether it is a necessary taxpayer investment. The F/A-22, with sub-contractors in virtually all 50 states, is a perfect example of political support for a weapons system that simply hasn't yet proven it's worth.

The Air Force has led taxpayers down the primrose path on the cost of the F/A-22. Original plans called for 750 aircraft at a per unit cost of \$68 million per plane. Even with the congressionally mandated production cap, the total development and production cost of the F/A-22 is \$58.7 billion. Recently, DOD predicted they could purchase 224 planes for that amount.<sup>15</sup> That's a per unit cost of more than \$260 million, roughly six times the cost of an F-15, which is still the most capable fighter on the planet and will continue to be until the F/A-22 replaces it.

Clearly, the F/A-22 needs further scrutiny because, the fundamental question of whether we need to pursue acquisition of the F/A-22 remains and taxpayers need it to be answered.

Thank you again for inviting me to testify, and I would be happy to answer any questions you might have.

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<sup>15</sup> E.C. Aldridge, Under Secretary of Defense for Acquisition, Technology and Logistics. Letter to Rep. John F. Tierney, U.S. Congress. October 3, 2001.