UNREADY FOR WAR: AMERICA'S F-35 GETS A BAD REPORT CARD, AND LOTS OF BAD NEWS

Recent headlines:
-- Pentagon F-35 fighter jet report reveals massive problems
-- Pentagon Report Casts Further Doubts on F-35's Combat Readiness
-- The F-35's Terrifying Bug List
-- Worlds Most Expensive Jet Somehow Gets Worse
-- Software flaws will delay combat testing on F-35s by a year
--F-35 Still Dogged With 'Deficiencies'
--Pentagon issues scathing report on the F-35
--Still terrible: Pentagon releases new list of F-35 program issues
----all 67 news articles »

WHAT REPORT ARE THEY TALKING ABOUT?

On February 2 the US Department of Defense, Director of Operational Test and Evaluation, Dr. Michael Gilmore, published the latest annual F-35 test report.

The recent F-35 test report included many negative comments on the current condition of the aircraft:
"The program continues to discover significant problems during developmental testing that, if not addressed with corrections or, in some cases, labor-intensive workarounds, will adversely affect the operational effectiveness and suitability of all three variants; these deficiencies need to be corrected before the system is used in combat."

MAJOR PROBLEMS INCLUDE:
--the rate of deficiency correction has not kept pace with the discovery rate.
-- immaturity of the Autonomic Logistics Information System (ALIS)
--Block 3F avionics instability, necessary for combat capability
--several reliability and maintainability problems with the aircraft and engine
-- availability continued to be low, averaging 51 percent
-- 21 percent more time than intended down for maintenance
--50 complex weapons delivery accuracy events remain to be completed.

WAIT, THERE'S MORE:
--need to redesign ejection seat--on ejection of a typical 74 kg man, probability of injury 100 percent, death 23 percent
--excessive weapons bay temperatures, requirement to open bay doors on ground and in flight
--aircraft are restricted from exceeding 3 gs in symmetric maneuvers when fully fueled

AND SCHEDULE DELAYS
--the current schedule to complete System Development and Demonstration (SDD) and enter IOT&E by August 2017 is unrealistic. Full Block 3F mission systems [necessary for combat capability] development and testing cannot be completed by May 2017

--although the program has recently acknowledged some schedule pressure and began referencing July 31, 2017, as the end of SDD flight test, that date is unrealistic too
--the program will likely not finish Block 3F development and flight testing prior to January 2018."

2015 F-35 test report
http://www.dote.osd.mil/pub/reports/FY2015/pdf/dod/2015f35jsf.pdf

WHAT'S THE AUSTRALIAN ACQUISITION PLAN?

The Australia F-35 acquisition plan, as I understand it, is to procure the first F-35s in 2016 and expect to see the first F-35's in Williamtown by 2018, with RAAF's first F-35 operational squadron by the end of 2020.

BUT THE REPORT INDICATES THAT THE F-35 PROGRAM IS STILL DEEP IN DEVELOPMENT

General Chris Bogdan, the F-35 program manager, included this statement in his response to the recent test report: "As a reminder, the F-35 program is still in its developmental phase." That's correct, the F-35 is still in development and will be until 2019 at least. Using US acquisition verbiage, the F-35 program is now in the engineering and manufacturing development (EMD) phase (Milestone B, since 2001) which includes the current System Development and Demonstration (SDD) and also Initial Operational Test and Evaluation (IOT&E) with its start now delayed until 2018.

OPERATIONAL TESTING IS COMING UP IN A COUPLE OF YEARS, --FLY BEFORE BUY

Initial Operational Test and Evaluation (IOT&E) is a crucial part of any aircraft's development that often unearths technical problems requiring significant modifications to the fleet. In other words, if a problem is discovered during testing, all of the existing aircraft must be opened up and retrofitted to include the fix.

The US has established an Initial Operational Test and Evaluation (IOT&E) test regimen which is currently scheduled for 2018-2019. In the U.S. IOT&E is required by law prior to full scale production. Title 10 USC-Sec.2399, Operational Test and Evaluation of Defense Acquisition Programs states that "The Secretary of Defense shall provide that a covered system may not proceed beyond low-rate initial production until realistic survivability testing of the system is completed." There is a Pentagon office established for this very purpose, headed by the Dr. Michael Gilmore, the Director of Operational Test and Evaluation.

AUSTRALIA HAS SIGNED ON TO THE JOINT OPERATIONAL TEST

Australia will play an integral part in F-35 IOT&E. There is a multilateral Memorandum of Understanding which binds Australia, Netherlands, UK and US regarding IOT&E. The MOU was signed by Air Vice Marshal Chris Deeble on July 21, 2014 in Canberra. - MOU - "Concerning Cooperative Initial Operational Test and Evaluation of the F-35 Lightning II Joint Strike Fighter "
http://www.state.gov/documents/organization/234068.pdf

AND THEN COMES THE PRODUCTION AND DEPLOYMENT DECISION

After IOT&E comes Milestone C now scheduled in 2019, which is a decision for full production and deployment (P&D). F-35 Milestone C is scheduled for April 2019.

MEANWHILE EVERY F-35 MUST GO TO A U.S. DEPOT FOR MODIFICATION

General Chris Bogdan, F-35 program manager: "Guess how many [manufactured F-35 prototypes] will be in what I consider to be the right configuration? Not a one. Every airplane coming off the line now and coming off in the next two and a half years, plus all the airplanes we've built already, will need some form of modification to get them up to the full capability that we promised the war fighter." --Sep 11, 2015

http://www.defensenews.com/story/defense/air-space/strike/2015/09/09/-crossroads-f-35-still-faces-challenges/71970864/

BESIDES RESTRICTING USE, MODIFICATION ADDS TIME AND COST

Dr. Gilmore, DOT&E: "These aircraft will require a still-to-be-determined list of modifications in order to provide full Block 3F combat capability. However, these modifications may be unaffordable for the Services [and for Australia?] as they consider the cost of upgrading these early lots of aircraft while the program continues to increase production rates in a fiscally-constrained environment. This may potentially result in left-behind aircraft with significant limitations for years to come."

DEVELOPMENT, TESTING AND MODIFICATIONS

With the changed conditions the Australian plan is impossible. After fourteen years of development, and more to come, there will be no genuine F-35 system available any time soon to fulfill the Australia procurement schedule. There are only pre-production prototype airframes with unreliable engines and a fault-ridden logistics system which must stay in the US until they can be modified in depot at additional cost. Meanwhile the system must get through operational testing and evaluation which will bring more modifications.

F-35 AIR SHOW CAPABLE, BUT NOT COMBAT CAPABLE

So what about the Australian plan to procure the first F-35s in 2016 and expect to see the first F-35's in Williamtown by 2018, with RAAF's first F-35 operational squadron by the end of 2020?

Going ahead with the current acquisition plan would include the procurement of developmental aircraft at a very high price, probably about AUS$250 million each with spares and training etc, a price inflated by the worsening currency exchange rate, for planes not having the final design, and then having those planes not in Williamtown and Tindal but rather sitting on the tarmac in the U.S awaiting costly depot modification. It was a good plan on the old schedule but it's now out of date considering what has happened, and it's "buyer beware."

WHAT SHOULD AUSTRALIA DO TO RESPOND TO THE NEW CONDITIONS?

If the situation changes, the plan must change. It is better for Australia to either delay or abandon an F-35 acquisition decision at this time. As AVM Deeble is quoted as saying a year ago: "Understanding what capability we will get at the end of the development phase [2019, maybe] is really important. What does worry me is sustainment and training and support to the aircraft. The autonomic logistics global system is still evolving. It is behind, it is late and we have to do more work to accelerate that and understand what that means in a national context." AVM Deeble's words still apply. The upcoming operational tests that Australia will be a part of are designed to demonstrate F-35 performance and sustainment capabilities, and to discover technical problems requiring modifications. But that won't be soon.

It is better either to delay the acquisition decision or to decide against F-35.

THREE F-35 ACQUISITION ALTERNATIVES

Summing up, Australia has three realistic F-35 acquisition alternatives:

1. Give up on the F-35 because it no longer offers what it was supposed to provide, an effective strike fighter at a legacy aircraft price in a treasonable time.

2. Procure quantities of aircraft starting in 2016, park them in the US awaiting the completion of operational tests, and then fight for depot space for expensive retrofit before bringing them to Australia in the 2020's.

3. Delay the F-35 acquisition decision until the completion of IOT&E and a successful Milestone C decision maybe in 2019, maybe later, when the design is finalized and proven, and a finished product can be procured and brought to Australia and based at Willliamtown and Tindal.