CDA Institute Analysis of the KPMG Audit of the F-35 Costing Data

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Today, the Government released its long awaited independent review of the F-35 life-cycle cost data, the subject of much speculation following reports by the Parliamentary Budget Officer (PBO) and the Auditor-General of Canada (AG). In the past year, Canadian taxpayers have been concerned about the following:

- Had the Government committed to acquiring the F-35?
- Did DND conduct a fair options analysis of fighter aircraft to inform decision-makers?
- Was the Government certain as to the acquisition cost of the airplane – including costs per aircraft?
- What was the life-cycle of the aircraft?
- Were Operating and Support costs correct?

**Committing to an Acquisition** – Clearly, in statements made in the House of Commons and elsewhere, the Government confirmed that no contractual undertaking exists between the Government and either the U.S. Department of Defense (from whom Canada would potentially acquire the fighters) or Lockheed Martin (the manufacturer) to acquire the F-35 as Canada’s Next Generation Fighter (NGF). However, critics of the Joint Strike Fighter Program (including critics both of the F-35 itself and of the Canadian process) can be forgiven—up until the time the Government’s seven-point plan was announced—for assuming that the Government had decided to acquire the F-35. Multiple public statements by DND, Government ministers and senior officers of the CF provided no reason to think otherwise. With the release of the KPMG Life Cycle Costing Framework and the 2012 DND Update, and undertakings by the Government to table an independent analysis of the fighter aircraft available for the Next Generation Fighter Capability (NGFC), should reinforce Government’s contention that no final decision on a replacement fighter has been made.

**Fair Options Analysis** – Critics of the F-35 program have been concerned that the F-35 became the de facto choice without public discussion of what type of fighter Canada needs. Their view has been that open dialogue with Parliamentarians and the general public has been lacking and many felt that one of the largest single defence acquisitions in the nation’s history was being conducted without a full explanation to the public of the benefits, choices and costs. They have also argued that there is an unsatisfied need to clearly articulate what requirements are necessary to satisfy the overall demands of two distinct operational roles and environments: the defence of Canada and expeditionary operations. Furthermore, critics argue that a clear articulation was not made of why the F-35 alone was initially judged to be the only aircraft capable of fulfilling Canada’s requirements.

Since July 2010, when the intent to acquire the F-35 was announced, the nation has continued to experience deficits and the defence budget has been reduced by more than $2.1bn, while the budget allocated to acquiring a Next Generation Fighter Aircraft has been capped at $9bn. Under the seven-point plan announced by Government, the “reset” and subsequent options analysis to be led by the RCAF and verified by an independent body of eminent experts should give Government,
Parliamentarians and the general public a transparent understanding of the balance of risks and costs for every potential fighter option available on the market.

**Acquisition Costs** – The 2012 DND Update reports that the cost per aircraft, that is the Unit Recurring Flyaway Cost, will be some 16% higher than the Government initially estimated. These costs have risen from an initial estimate of US$75m to US$87.4m per aircraft at the time that the F-35 is to be acquired (ideally when the aircraft enters its most favourable, high-rate production run). Despite the cost per aircraft increase, the 2012 DND Update confirms that 65 Joint Strike Fighters can still be acquired from within the $9bn acquisition budget envelope. This assessment is based on the fact that, despite rising Unit Recurring Flyaway Costs, the estimates for some of the other initial acquisition costs have been reduced, such as those allocated to infrastructure and initial ammunition purchases. As well, funds allocated to provide Canadian-specific design modifications, including a drag chute and refueling probe, are no longer included. Finally, the estimate includes only $602m for contingency and notes that this “constitutes a contingency shortfall of approximately $848million” as the contingency amount was “capped by Government policy.” If in future costs exceed monies set aside for contingencies Canada will acquire fewer than 65 fighters.

**Aircraft Life-Cycle** – The total cost of ownership associated with the F-35 project has caused considerable controversy, largely with respect to determining the appropriate life-cycle for the aircraft. In the public domain, DND has relied on the long-standing practice of estimating life-cycle costs over 20 years when discussing acquisitions. The PBO, however, used a 30-year Life-Cycle while the AG suggested that a 36-year Life-Cycle estimate be used. KPMG’s Life Cycle Cost Framework assessed the F-35 Life-Cycle to be 42 years based on 30 years of service, 7 for procurement and phase in, and 5 for disposal and phase out.

None of the life-cycles used by the various agencies are inappropriate. DND has used 20 years as the common basis for life-cycle estimates for all previous capital procurements. The PBO, the AG and KPMG studies are also correct in their utilization of a longer life-cycle period as this reflects the actual life-span of such aircraft. For example, the CF-18 fleet will ultimately operate for some 40 years by the time it is replaced. However, it should be noted that the longer the life-cycle used, the more speculative these costs become, as demonstrated by the sensitivity analysis provided in the 2012 DND Update. The myriad of potential cost-altering effects, including market and currency fluctuations, oscillations in fuel costs, inflationary pressures and productivity gains gets more complex as the life-cycle projection gets longer, creating more unpredictability with respect to costs.

**Operating and Support Costs** – Essentially, KPMG has validated the annual operating and support costs compiled initially by DND. However, the KMPG assessment agrees with the PBO and AG that personnel and operating costs should be included in life-cycle estimates. The information originally released by DND to the public did not contain this costs data although the AG reported that DND had provided estimates for these costs. The omission of this cost data from DND’s public release of information is the primary source of variance between the initial DND estimate and all others. It should also be noted that the 2012 DND Update includes the option for adding the costs of acquiring attrition aircraft, which the other assessments do not.

Overall, the table below indicates that there is little variance in the life-cycle cost estimates between studies if a standard life-cycle is used, and the same cost elements are included.
<table>
<thead>
<tr>
<th>Item*</th>
<th>DND</th>
<th>PBO</th>
<th>AG</th>
<th>2012 DND Update**</th>
<th>CDA Institute Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.565</td>
<td>- The 2012 DND Update is the only analysis that calculated this cost which included partner fees to the JSF program. This is a reflection of KPMG’s suggested accounting practices. The PBO, for instance, considered these to be sunk costs.</td>
</tr>
<tr>
<td>Capital Acquisition Costs – Aircraft</td>
<td>6.0</td>
<td>9.7</td>
<td>5.58</td>
<td>5.98</td>
<td>- PBO’s figures are presented in 2009 USD, and were calculated using a ‘top-down’ Cost Estimating Relationship model based on the Basic Mass Empty weight of the Aircraft. All other estimates are in Budget Year CAD, and were based on JSF Program Office data.</td>
</tr>
<tr>
<td>Additional Capital Acquisition Costs</td>
<td>3.0</td>
<td>1.7</td>
<td>3.4</td>
<td>3.01</td>
<td>- PBO’s allocation for initial logistics was included in this chart as a capital acquisition cost to be consistent with other reports</td>
</tr>
<tr>
<td>TOTAL ACQUISITION</td>
<td>9.0</td>
<td>11.4</td>
<td>8.98</td>
<td>8.99</td>
<td>- PBO did not estimate the cost for aircraft modification and improvements or infrastructure investments. - The 2012 DND Update acknowledges that the full amount of contingency suggested by the KPMG framework would be $1.45bn, but the acquisition total only includes $0.602bn, and recognizes that “if full available acquisition contingency was required, the shortfall would be met by buying fewer aircraft.”</td>
</tr>
<tr>
<td>Personnel, Operating and Maintenance Costs</td>
<td>12.0</td>
<td>25.45</td>
<td>33.89</td>
<td>35.20</td>
<td>- The figures for DND, PBO and AG total life-cycle costs were extrapolated on a pro rata basis over a standard 42 year life-span to provide a common basis of comparison.</td>
</tr>
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What the Government has done right – Faced with a perceived crisis of confidence in the management of the F-35 program and the information available to Parliamentarians and taxpayers, the Government has appropriately instituted its seven-point plan and imposed a sequence of steps and studies that should increase Canadians’ confidence in the process of acquiring a Next Generation Fighter Capability.

What the Government needs to consider in future – Embedding the National Fighter Procurement Secretariat within Public Works and Government Services Canada was a sage decision given the turbulence that this program has experienced. Parliamentarians and the Canadian public would be well-served by a reformed defence acquisition process.

Overall, the release of the seven reports by the National Fighter Procurement Secretariat is welcomed. However, future studies of this nature should be provided to Parliament in a manner that allows ample time for Parliamentarians to discuss and debate these important issues.

* All figures are Bn: PBO costs are 2009 USD, all others are Budget Year CAD.
** These costs are taken from DND’s “Next Generation Fighter Capability Annual Update: December 2012,” which used the Life Cycle Cost Framework prepared by KPMG and subsequently reviewed by KPMG.
CDA Institute Recommendations

- Conduct the market and risk analysis for the project as soon as possible and in a manner that provides Parliamentarians sufficient time to debate and inform Canadians of their views.

- Conduct a study of the Industrial Benefits or offsets that would accrue from other fighters being examined in the upcoming options analysis as compared to current and expected F-35 contracts.

- The government, as a matter of policy, should in parallel with the aforementioned new studies devote the necessary time and effort to develop a new institutionalized defence acquisition process, for all major capital acquisitions that provides efficiency, transparency, Parliamentary oversight and timely and accurate information to Canadians.