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**United States Senate**  
COMMITTEE ON ARMED SERVICES  
WASHINGTON, DC 20510-6050

RICHARD D. DeBOBES, STAFF DIRECTOR  
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February 6, 2012

The Honorable Leon Panetta  
Secretary of Defense  
1000 Defense Pentagon  
Room 3E880  
Arlington, VA 20301

Dear Mr. Secretary:

On Friday, January 20, 2012, without prior notice to or consultation with Congress, you lifted the two-year “probation” on the F-35B, the Short Take-Off Vertical Landing (STOVL) variant of the Joint Strike Fighter (JSF) originally imposed by then-Secretary Gates about one year ago. We are seriously concerned about the lack of notice and consultation.

When Secretary Gates originally decided to put the F-35B on probation, he intended his decision to invoke specific courses of action by Lockheed Martin and the program management office to help ensure that the F-35B program established technical maturity and design stability in several key areas. Have these actions been taken? If not, your decision may have foregone a valuable opportunity to continue driving desired improvements through the still-nascent, enormously challenging program to develop the F-35B. We believe that every opportunity to focus Lockheed Martin’s attention and disrupt “business as usual” in this multibillion-dollar effort, as Secretary Gates’ probation decision had done, should be maximized.

For months, this Committee has insisted—most recently in the National Defense Authorization Act for Fiscal Year 2012, under section 148, “Report on Probationary Period in Development of Short Take-Off, Vertical Landing Variant of the Joint Strike Fighter”—that the Department define *specific* criteria that would determine how the F-35B would exit probation. It is unclear to us that the Department has done so.

Nonetheless, the Department’s “F-35 Joint Strike Fighter Concurrency Quick Look,” released on November 29, 2011, called for “serious reconsideration of procurement and production planning”. And, just days ago, Department’s chief operational tester reported that the JSF Operational Test Team (consisting of the Services’ operational test agencies) assessed the F-35 program as not on being track to meet operational effectiveness or operational suitability requirements.

We appreciate that the development of F-35B has enjoyed some success over the last few months, after several years of having fallen short. We similarly understand that engineering solutions to known problems with the F-35B’s structure and propulsion have been identified.

However, in the intervening time since probation was imposed, more problems with the F-35B's structure and propulsion, potentially as serious as those that were originally identified a year ago, have been found. This is salient where the F-35B has completed only 20% of its developmental test plan to date. Your decision, therefore, appears at least premature.

The Department's hastily-prepared report on the F-35B, intended to fulfill the statutory requirement of section 148, was provided to the Committee only after you announced your decision. It purports to justify your decision by explaining that based on a "holistic view" of this weapon system "sufficient progress in F-35B development, test and production [has been made] such that no uniquely distinguishing issues require more scrutiny than the other variants of the F-35". Notably, this standard was never originally defined or articulated as the exit criteria determining the F-35B's removal from probation. It is, rather, now being offered as an after-the-fact rationalization of a decision already made.

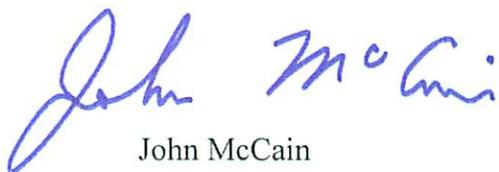
For the foregoing reasons, we pose a series of question on the appropriateness of your decision, as itemized in the attachment. We would appreciate receiving answers to these questions as soon as possible.

Beyond the substantive concerns raised in that attachment, we are also troubled that we had to learn of your intention to remove the F-35B from probation from the press just hours before your announcement. This is unacceptable.

We strongly conveyed to you and your staff our concerns about learning first from the press of the Department of Defense's decision to enter into a Memorandum of Understanding on how it would procure the fifth block of low-rate initial production (LRIP-5) JSF aircraft while this Committee was conferencing with the House Armed Services Committee in connection with the National Defense Authorization Act for Fiscal Year 2012 on the very same issue. In a similar way, we had hoped that section 148 of the Act would have made abundantly clear this Committee's special interest in the criteria for lifting the probation on the F-35B. We continue to be frustrated that the Department is failing to communicate with this Committee on key developments relating to this program and ask that you rectify this problem as soon as possible.

Thank you for your assistance with this Committee's oversight of this important program.

Sincerely,



John McCain  
Ranking Member



Carl Levin  
Chairman

## Questions on F-35B Probation

1. Did the Director, Operational Test and Evaluation (DOT&E); the Deputy Secretary of Defense, Developmental Testing; the Deputy Assistant Secretary of Defense for Systems Engineering; the Director, Program Assessment and Root Cause Analysis; and the Director, Cost Assessment Program Evaluation (DCAPE) *specifically* participate in informing the “holistic view” that led to your conclusion? If not, why not?
2. Do *each* of these senior advisors, who have relevant and vital expertise needed to help you make important procurement decisions on a fully informed basis, agree with your decision to take the aircraft off “probation”? If not, why not? If there were dissenting opinions on lifting probation at this time, please provide the substance of those concerns to the Committee.
3. How have improvements to the design of the F-35B’s auxiliary air-inlet doors, which Secretary Gates identified in connection with his original probation decision, demonstrated maturity in this variant’s short take-off and vertical landing capability so as to warrant its early removal from probation—when the redesign is only now being installed on BF-1 and related flight testing only recently began in mid-December 2011?
4. How have improvements to the design of the F-35B’s upper lift fan inlet door actuators, which Secretary Gates identified in connection with his original probation decision, demonstrated maturity in this variant’s short take-off and vertical landing capability so as to warrant its early removal from probation—when a new actuator is only now in development and an interim design will not be tested until late 2012?
5. How have improvements to the design of the F-35B’s FS 496 bulkhead, cracks in which Secretary Gates identified in connection with his original probation decision, demonstrated maturity in this variant’s short take-off and vertical landing capability so as to warrant its early removal from probation?
6. How have improvements to the design of the F-35B’s lift-fan clutch, which Secretary Gates identified in connection with his original probation decision, demonstrated maturity in this variant’s short take-off and vertical landing capability so as to warrant its early removal from probation—when the risk associated with, and a path forward on, this propulsion problem has not yet been determined and a production cut-in for any redesign is not planned for any earlier than the seventh block of low-rate initial production aircraft (LRIP-7)? Do you agree that altering flight procedures for the F-35B and installing a warning indicator are inadequate as a permanent solution to this problem?
7. How have improvements to the design of the F-35B’s lift-fan drive shaft, which Secretary Gates identified in connection with his original probation decision and which has undergone redesign twice already, demonstrated maturity in this variant’s short take-off and vertical landing capability so as to warrant its early removal from probation—when the failure of the second redesign is only now being analyzed and corrective action is going on now?

8. Why is early removal warranted in the face of other, recently-discovered problems with the F-35B, including, the lift-fan door actuator support beam, roll-post nozzle doors and actuators, the three-bearing swivel nozzle door, the main landing-gear doors and the fuel dump subsystem—where design fixes are still being developed and, therefore, have not yet been integrated and tested to ensure stability?
9. In testimony before the Committee, the JSF Program Executive Officer Vice Admiral Venlet allowed for the possibility that the F-35B could establish technical maturity and design stability in less than the two years of the probation period, if it performed well in terms of unmonitored flight, ship trials, and in the incorporation of design improvements for STOVL capability.
  - a. How does the F-35B's limited performance with regard to unmonitored flight warrant its early removal from probation?
  - b. How does the F-35B's limited performance with respect to a single, limited-duration ship trial (conducted just this past October) warrant its early removal from probation?
  - c. How do the significant work and flight tests that are needed to verify and incorporate modifications to the F-35B and correct known STOVL deficiencies to prepare the jet for operational use aboard large-deck amphibious ships, which have yet to be done, warrant the F-35B's early removal from probation?
10. According to the most recent annual report issued by the Department's operational testing directorate, the F-35B's current and projected weight growth, which Secretary Gates cited when he originally imposed the probation, still threatens the ability of the F-35B to meet its vertical-lift bring-back requirement—a primary STOVL-mode attribute and a key performance parameter. As of November 2011, only 230 pounds of margin existed between the plane's current weight and its not-to-exceed weight. Why does this concern—unique to the F-35B—not warrant, at a minimum, keeping this variant on probation until more of the flight testing plan is completed?
11. How is your decision warranted while the development, integration and flight testing of the most complex elements of the F-35B's mission systems still lie ahead?
12. Given that a solution to negative flight performance characteristics that impact all F-35 variants, such as wing roll-off at high angles of attack and high-speed flight regimes, has not been developed and tested and that it is, therefore, impossible to know how such solutions will be integrated with the unique F-35B configuration, how has the F-35B demonstrated the technical maturity and design stability needed to remove the F-35B from probation early?
13. Given the uniqueness of the F-35B configuration, which has already introduced numerous technological and design challenges that impact its key performance

characteristics, how can one assume that solutions to the recently identified flight characteristic problems will be seamlessly integrated from one variant to another?

14. Under LRIP-4, Lockheed Martin is expected to deliver 16 STOVL jets to the program—half of the total purchase of 32 jets under that block. But, we understand that, with only about 50% of the work under LRIP-4 completed to date, work under this production contract is expected to overrun substantially, particularly, when the cost of making changes driven by discoveries made late in development are included. At this point, the program office estimates that building jets under this contract will exceed the contract's target cost (\$3.46 billion) by \$245 million, and that "must pay" concurrency changes will require \$237 million more—for a total of \$482 million. How does this expected growth in the total cost of producing aircraft under LRIP-4, about half of which is comprised of F-35B aircraft, favor removing this variant from probation early?