SOME OF THE HIGH & EXTREME LEVEL RISKS IDENTIFIED AND SINCE MATERIALISED IN F-35A JSF DESIGNS

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(Refer Air Power Australia Website for Original Risk Assessments)

STOVL F-35B JSF IS BASELINE DESIGN:
* Inappropriately influenced other variant designs
* Aerospace version of Herpes
* Gift that will keep on giving for LOT

DOES NOT INCLUDE RISKS INCUMBENT IN:
* ALIS, ALGS, TMS, OMS or PHM
* Supportability and Sovereign Control
* Interoperability and NCW (e.g. MADLS, et al)
* Fact that JSF is not a 5th Generation Fighter

STOVL REQUIREMENT ON ENGINE IMPOSED >2,000LBS OF DEADWEIGHT ON NON-STOVL JSFs (circa 2004)
* Result of “commonality” run amok/rampant
* No weight growth margin for LOT
* Degraded aero/propulsive performance
* Negative effects on aircraft structural life

SUSCEPTIBLE TO AERO/ELASTIC INSTABILITIES (circa 2004)
* Unacceptable Limits on Mission Performance
* Degraded aero/propulsive performance
* Degraded aircraft structural life
* Fails to meet Threshold * JORD Specifications

HIGH AERODYNAMIC DRAG DESIGN (circa 2004)
* Fails to meet Combat Radius KPP
* Degraded aero/propulsive performance
* High wing/stores interference drag component
* Fails to meet Threshold * JORD Specifications

LO DESIGN OBSOLETE / INADEQUATE (circa 2004)
* Defined and designed for legacy threat environments
* Survivability inadequate against modern threats
* Not viable for penetration, OCA/DCA and SEAD/DEAD roles
* Lethality loss due to low survivability
* Fails to meet Threshold * JORD Specifications

F-35 JSF ICP/SOFTWARE ARCHITECTURE (circa 2002)
* Unable to meet computational needs
* Exacerbates thermal management problems
*Unable to meet mid & long term growth needs
* Software complexity/complication is outlier

F-35A JSF AN AERO/PROPULSIVE OUTLIER (circa 2004)
* "Fighter performance comparable with…….
* Does not meet sole performance KPP
* Degraded aero/propulsive performance
* Does not meet performance KPIs
* Fails to meet Threshold * JORD Specifications

F-35A JSF DESIGN GROSSLY OVER WEIGHT (circa 2004)
* No weight growth margin for LOT
* Degraded aero/propulsive performance
* Degraded aircraft structural life
* Fails to meet Threshold * JORD Specifications

F-35 JSF THERMAL MANAGEMENT SYSTEM (circa 2004)
* Insufficient capacity for SDD systems
* No growth margin for design evolution
* Imposes severe operational limitations
* Bounding constraint for avionics and controls

F-35C TAIL HOOK INSTALLATION AN OUTLIER (circa 2008)
* Compromised tail hook design on F-35A
* Emergency arrestments highly problematic
* Fails to meet Threshold * JORD Specifications

JSF FUEL DUMP SYSTEM ENTRAINMENT (circa 2007/8)
* Entrainment obvious during AA-1 testing
* Fire and explosion hazard
* Expensive fix will have RCS/LO implications

"The Source of Risks Equation"

* Threshold = Bare Minimum Acceptable Specification

PRIMARY SOURCE OF RISKS LOOSELY COUPLED "COMPROMISE ^3" DESIGN METHODOLOGY RISKS (circa 2003)
* Outlier designs
* Huge growth in costs
* Huge overruns and delays in schedule
* Major & serious deficiencies/defects in designs
* "Fixes" become "self eating watermelons"
* Fails to meet Threshold * JORD Specifications

PRIMARY SOURCE OF RISKS RISKS ARISING FROM FLAWED & CAIV-ed JORD (circa 2005)
* Obsolete and Overmatched before IOC
* Loss of technological edge needed for air superiority
* Loss of strategic edge needed for air superiority
* Damage to whole Force Structure - "Cuckoo in Nest"

PRIMARY SOURCE OF RISKS IGNORING ADVICE OF LM/FWD RISK OFFICE & INDEPENDENT EXPERTS (circa 2003)
* All identified and assessed risks materialise

IDENTIFIED RISK ASSESSED AT HIGH or EXTREME LEVEL (date identified and assessed)
* Reasons behind risks
* Main Consequences of Materialised Risks

Data Sources: US DoD OLR Report, GAO, CRS, Air Power Australia, PAGA
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