

Joint Strike Fighter – Lightning II Monthly Assessment Report

Prepared by DCMA Lockheed Martin Fort Worth



March 2010

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Table of Contents

DCMA Monthly Summary of Activities and Events.....	3
Component Summaries	5
Report Scope.....	7
On-Time LRIP Aircraft Delivery.....	8
Sub-Indicator – System Check Out Completion Progress (SCOP) LRIP Aircraft.....	10
Improve Supplier Delivery Rate	11
Improve Supplier Quality Rate	12
Non-Conformance Reduction	13
Maintain Cost and Schedule	18
Earned Value.....	21
Appendix A – EV Assessment Criteria	21

DCMA Monthly Summary of Activities and Events

Flight Test: AF-1 undergoing [REDACTED] investigation. CTOL engine regression run is pending [REDACTED] resolution and ops check completion. AF-1 will enter the paint barn for 11 days. AF-2 engine build up in work and is scheduled for first flight 6 Apr 2010. BF-1 accomplished its first vertical landing on 18 Mar 10.

SDD Replan: 23 Feb 2010 JPO contracts responded to LM Aero request for OTB/OTS. JPO approved setting BCWP=BCWS=ACWP (S=P=A) for all work packages and partial relief of LM Aero monthly CPR submittal effective month-end Feb 2010 through incorporation of OTB/OTS. All restructuring work is being executed with anticipation of a Nunn-McCurdy breach.

Schedule / DD-250 Deliveries: 17 Mar 2010 LM Aero received authorization to start OTS program replan for LRIPs 1-3. For month-end Jan 2010, LRIP 1 average is ~7.4 months late to [REDACTED] DD-250 dates – LM Aero received a contract modification from the government on 18 Mar 2010 moving contractual DD-250 dates to EOM Jul 2010 and Aug 2010 respectively. LRIP 2 aircraft are averaging ~3.9 months late – a draft replan is in-work to rebaseline the PMB with revised DD-250 dates. LRIP 3 aircraft that have passed their baseline start dates have degraded from the previous average of less than 1 month late, to ~1.9 months late to their DD-250 dates. [REDACTED] is projected for mid-CY2010. The On-Time LRIP Aircraft Delivery section of this report provides more detail.

[REDACTED] received two letters from LM on 16 Feb 2010. These letters provided “credit for delivery” of three [REDACTED] BF-10, BF-11 and BF-12 (BF-9 was originally included but was removed in a follow-up letter). These deliveries led to [REDACTED] being rated Green on the Major Assembly delivery metric for the first time. However, even if the 16 Feb letters from LM are disregarded and only current status in building [REDACTED] is accounted for, [REDACTED] would still be rated Green for the month of Feb 2010 (6 M-days late to contract on average in lieu of 5 M-days ahead of schedule). [REDACTED] is 2 assemblies ahead of contract on [REDACTED], but has [REDACTED] assemblies (AF-12 & AF-13) and 2 [REDACTED] assemblies (AF-11 & AF-12) that are delinquent. These late assemblies are all less than 1 month behind schedule. [REDACTED] released their revised [REDACTED] forecast schedule on 12 Feb 2010 to recover the [REDACTED] deliveries to the [REDACTED] delivery schedule. [REDACTED] will also be increasing resources to the [REDACTED] build lines, going to a two shift operation and temporarily dedicating an [REDACTED] machine to the [REDACTED] build line.

[REDACTED] LM Aero has provided [REDACTED] limited funding to continue LRIP 4 long lead effort. It is deemed sufficient to preclude further [REDACTED] schedule degradation at this time. [REDACTED] s still working through the issue of [REDACTED] receiving reports for the [REDACTED] having [REDACTED] [REDACTED] There was a summit meeting last month to address the issues among the stakeholders, but follow through has been lacking. [REDACTED] s preparing a Contracts Letter to LM Aero to convey their concerns and associated impacts.

[REDACTED] issued a Level II Corrective Action Request (CAR) for tool control violations at [REDACTED] [REDACTED] There were 54 findings including multiple tools with missing components, broken tools with fragments gone, missing tools, tools not chitted out, tools present in box not inventoried and tools modified. [REDACTED] has not yet accepted [REDACTED] corrective action plan.

Maintenance and Quality Verification Stand-Down: DCMA LM FW is internally coordinating the draft of its independent review of LM Aero’s Maintenance and Quality Verification Stand-Down analysis. Report distribution slated for 1QTR CY2010.

Acceptance: LM and JPO continue to negotiate the contract modification [REDACTED] addressing acceptance. DCMA was asked to provide input, but primary discussion is on-going between LM and JPO for the delivery of aircraft at Eglin AFB and who, what, where and when the actual acceptance process will take place. The primary concerns are source and destination for acceptance of ALGS which has

impact to aircraft and Eglin supplies and services. Two DCMA personnel will attend the International Acceptance Working Group (IAWG) conference scheduled for 14-15 Apr 2010 in Turkey.

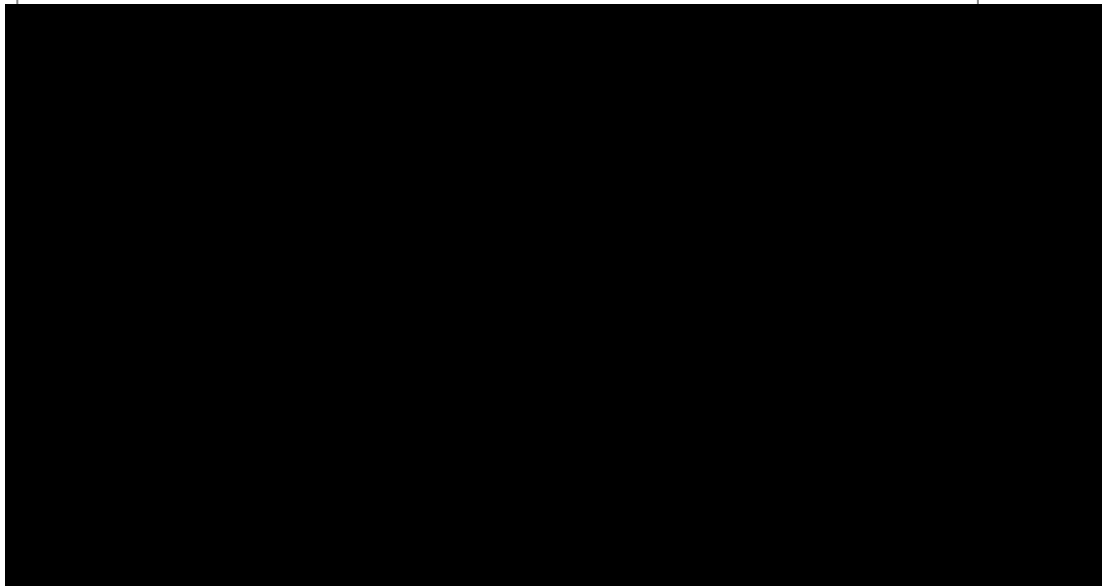
Safety of Flight (SOF): There were 96 Audits (quantity of how many attempts) with 86 Inspections (accepted buy-offs) with 5 defective; of those one Level II CAR was issued for using incorrect tool to perform torque of vertical, four were not SOF characteristics and Level I CARs were issued. The first checkout of the [REDACTED] system with the new tester was successful on AF-2. We will ensure the other variants check as well and we will finally have an acceptable [REDACTED] system check out.

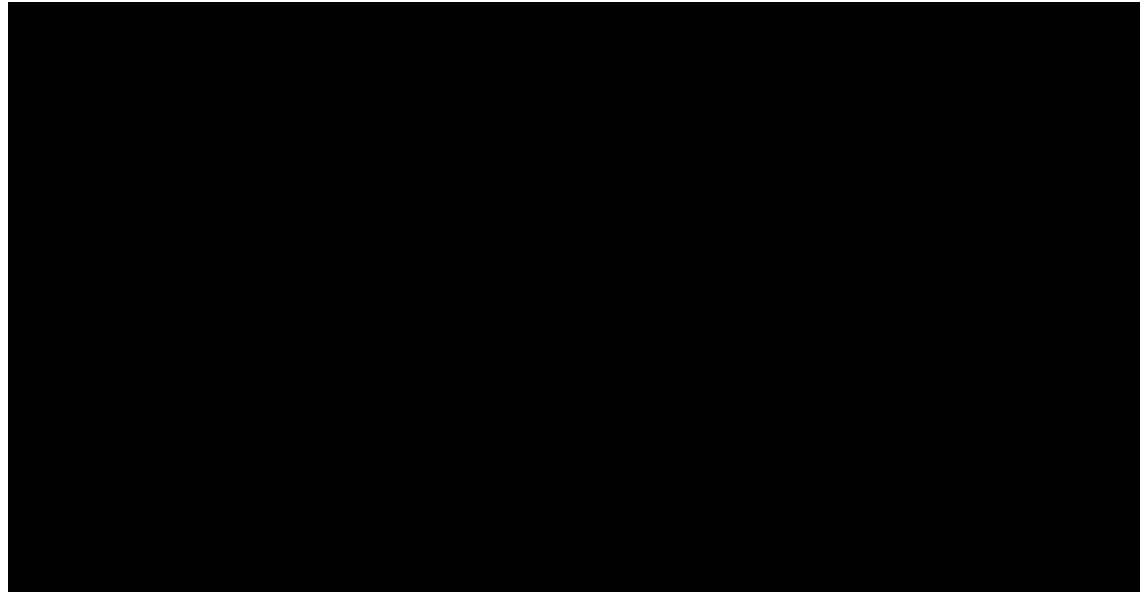
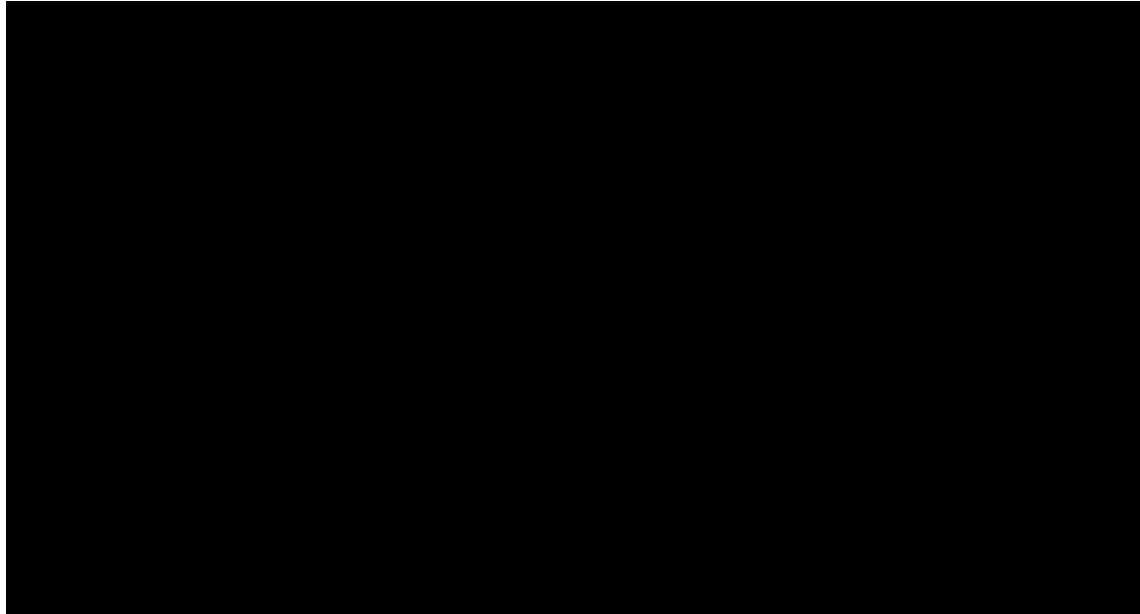
Build Efficiencies: LM Aero recently reported a Learning Curve of 73%. While DCMA has noted improving trends in aircraft build efficiency, it does not concur with LM Aero's assertion.

The JSF aircraft build process does not have the maturity to ascertain a learning curve. This is due to: A) The limited quantity of aircraft articles built B) The inability to validate a doubling effect C) Processes have not stabilized D) An aircraft baseline is not in place. Furthermore, the articles produced to date have significant amounts of variation in assembly, configuration and system components, such as: A) three aircraft variants are being built with less than 50% commonality B) the majority of the aircrafts produced are SDD aircraft and do not represent production articles C) each aircraft built to date is unique.

Although a true learning curve may not be available, the potential signs of cost improvement can be demonstrated through a review of Lockheed Martin Aero's labor hours reflected in Earned Value data. A DCMA assessment is shown by calculating the labor efficiency for produced aircraft. DCMA has assessed LM Aero's efficiencies for three primary SWBS (Forward, Wing and Mate). For example, 2BF-1 shows [REDACTED] standard hours and [REDACTED] Actual hours for the forward. This equates to an efficiency of 6%. With the completion of AF-2 (forward) and AF-3 (forward) the efficiency improves to 9% and 8% respectively.

DCMA has chosen to only assess flying articles (not static or test articles) and only SWBS that are 100% complete builds in the forward, wing and mate were considered. Below are the graphical results.





Component Summaries

[REDACTED] has downsized by app. [REDACTED] personal in the facility. [REDACTED] The new PM is on board. There will be a non-voluntary lay off in the Apr 2010 time frame. It is unknown at this time how this will affect [REDACTED] is no longer voluntarily providing [REDACTED] delivery schedule information. This will change after GSI is flowed down on IWTAs.

[REDACTED] There have been issues noted with establishing an initial Qual Baseline (test repeatability and HG function) on the effort. Potential scope growth exists as [REDACTED] may be requested. DCMA believes that based on the increasing number of [REDACTED] fixes; the final SDD S/W delivery, the [REDACTED] will push out by 18 months from the EAC-6 plan. The S/W effort will not recover schedule to the current Performance Measurement Baseline. As higher level integration continues; [REDACTED] will continue to release updated versions of [REDACTED] to accommodate SAR/SCR fixes through Jun 2010. The rate of SCR related SAR closure will not improve over the next 2 months.

completed the final delivery of SDD Hardware and all deliveries. continues support BF-4 Flight Test issues. OFP was delivered 1 Feb 2010 on-time. LRIP 1 delivery dates have slipped due to pending ECPs approvals. The delay in ECPs and variance approvals is impacting Level of Effort (LOE) costs. LRIP 2 is also affected. A streamlined ECP process needs to be in place to support the program. Stop work was issued due to lack of funding for LRIP 4.

was scheduled to receive a testable version of the Lockheed Martin released engineering baseline on 1 Feb 2010. This did not occur on time and as a result of this late delivery to NG, they will be unable to meet their delivery of Block 1 & 2 incorporated into the updated Lockheed Martin until 30 Apr 10. delivered the 5 and 6 LRIP 1 sensors on 22 and 24 Feb 2010 respectively. Contract dates were six on 20 Nov 2009 and six on 28 Feb 2010. All LRIP 1 sensors are projected to be delivered late.

are implementing the fix for the problem on the and were able to ship two additional sensors this month. Receipt of the remains at a slow pace and is the current bottle neck to assemble, test, and deliver sensors. Additionally, has been taken off line for two weeks for upgrades therefore no further deliveries are expected until mid-March. When the LM is brought back online anticipates rapid delivery of 5 to 10 sensors. However, when looking at projections for 2010, the supply of are a concern and will be closely monitored.

received updated information regarding the formal transition plan by for the move from DCMA anticipates a negative impact to contractual delivery of units due to the transition. Although completed the shipment of test equipment as well as other assets needed for the build and test process, set up to support qualification testing has taken longer than expected. The contractor has found a contrast issue that is currently undergoing RCCA. Also, the contractor is experiencing workforce issues since the entire team did not follow the program to tentatively plans to have a full process audit of activities at by mid Apr 2010.

Contractor continues to incur additional cost expenditures developing work-arounds in order to maintain schedule. Software development infrastructure releases, with needed capabilities, for the target environment continue to slip due to greater than anticipated problems (e.g.)

rates SDD Technical Performance as Yellow. This rating is primarily due to STOVL/CV and STOVL/CV DCMA has advised that they are not authorized to disposition a major or critical non-conformance. IAW FAR 46.407, the Contracting Officer is the only person that can authorize the disposition of a major or critical non-conformance. Issued CAR #2010-01 on 12 Feb 10. On 22 Feb 10, stated in their CAR Response that they do "...not consider the defect in question to be a Major NC due to the fact that it does not violate a contract requirement flowed down from LM Aero." DCMA rejected CAP and is awaiting response. If the next response is found unacceptable, we will recommend to DCMA Management that the CAR be elevated to a Level III. DCMA will continue to report on this issue until closure.

A requirement conflict is under investigation regarding the need for actual modules as opposed to mass modules. Triage is likely to take place soon. There is currently a replan in progress for This will result in movement of capabilities and adjustments to RWP priorities are forthcoming. The replan will require adjustments to the IMS. ith significant delays due to test station user unfriendliness and variations in station configurations).

Contractor continues to have deficient delivery and quality ratings. [REDACTED] was issued a Level III CAR on 23 Feb 2010 for Failure of Contractor's Quality System to Control Acceptable Calibration System. [REDACTED] was previously issued four Level II CARs concerning calibration in the last nine months.

[REDACTED] DCMA Predictive Analysis is Red due to [REDACTED] on-dock dates, and MRB repair activity. RCS Pass/Fail Criteria does not allow for sufficient margin for production program, most likely all [REDACTED] fail - [REDACTED]

[REDACTED] Contractor is continuing to have problems with regard to [REDACTED] testing of the [REDACTED]. They have suspended any further [REDACTED] testing until they can: 1) understand the cause of [REDACTED] failures reported during [REDACTED] endurance testing; and 2) understand the cause of 4 separate [REDACTED]. [REDACTED] has sent their subject matter experts into [REDACTED] and their [REDACTED] to review the [REDACTED] design and to assess [REDACTED] manufacturing processes. The investigation is continuing. [REDACTED] targeting an Aug 2010 (AF-6) get well date for the current [REDACTED] configuration. They are currently redesigning the [REDACTED] and plan to have it completed by AF-13. The possibility of having to redesign the [REDACTED] puts more pressure on the [REDACTED] test schedule supporting the target aircraft deliveries. The test aircraft are currently flying with AOL's. DCMA anticipates program impact to DD-250 aircraft.

Report Scope

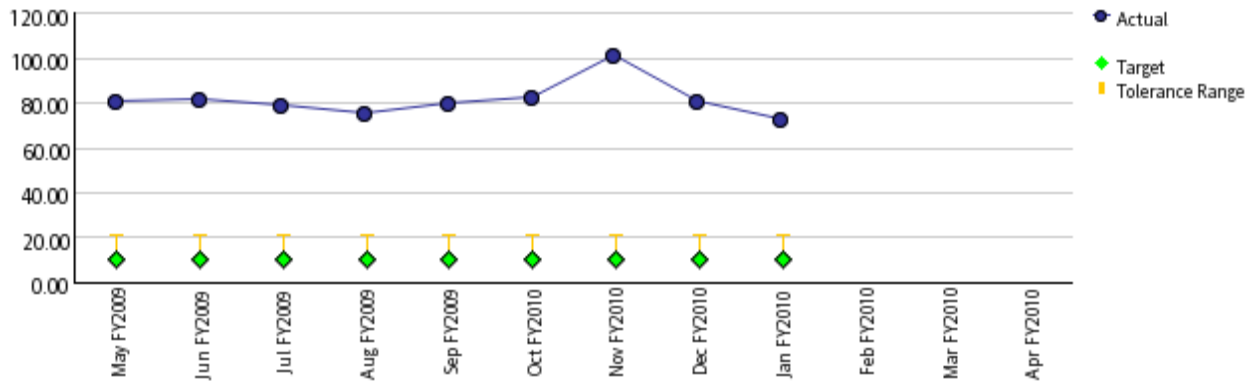
DCMA is conducting a process improvement initiative on the Monthly Assessment Report (MAR) therefore the content and format will be changing.

Metrics matrix in development.

Title	Performance Indicator	Indicator Rating Criteria	Rating
Maintain LRIP Aircraft Delivery Rate	Maintain LRIP aircraft delivery to within 10 M-days of contract delivery date	Green: ≤10 M-day variance to delivery date Yellow : 11 – 21 M-day variance Red: >21 M-day variance to contract delivery date	R
Improve Supplier Delivery Rate	JSF Key Suppliers have an average delivery rating of greater than or equal to 96%	Green: 100.0 to 96.0% Yellow: 95.9 to 87.0% Red: ≤86.9%	R
Improve Supplier Quality Rate	Each delegated supplier has quality ratings >96%	Green: ≥ 96% Yellow: 87%-95% Red: <87%	G
Maintain Cost and Schedule	Resource requirements are aligned in support of funding and budget allocations. IEAC data and projections match actual performance within + / - 10% of contractors budget at completion	Green: 1.0 to 0.95 variance (5%) Yellow: 0.95 to 0.90 variance (5% to 10%) Red: 0.90 or greater variance (>10%)	Y

On-Time LRIP Aircraft Delivery

The On-Time LRIP Aircraft Delivery Indicator is an Integrated Master Schedule (IMS) based indicator of the monthly average (+/-) float manufacturing days (M-days) of all reported LRIP aircraft to their contract delivery schedule (DD-250). Goal is to deliver LRIP aircraft within 10 M-days of contract delivery date. **Note: Float M-days are entered as positive values, but represent behind schedule status.** Monthly IMS LRIP CDRL data is directly used as data source. Data shall be updated NLT the 20th of each month. Total Float of all reported aircraft that have passed their baseline start date will be averaged monthly for indicator. Green: ≤10 M-day variance to delivery date, Yellow: 11 – 21 M-day variance, Red: >21 M-day variance to contract delivery date.



Indicator Status: Red

Trend: Improving

Summary of Indicator Status: Indicator is -73 Mdays for month end January. This month's average consists of all LRIP 1 and 2 aircraft, and eight LRIP 3 aircraft that have passed their baseline start dates.

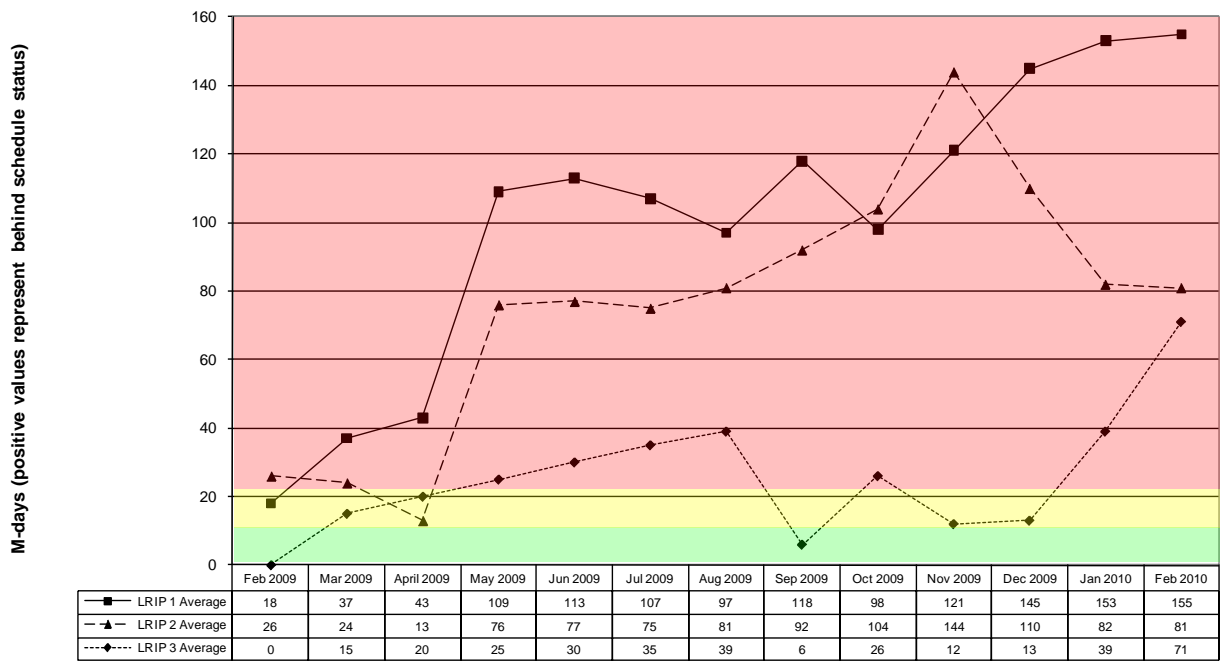
Root Cause / Analysis: LRIP 1 – Non-standard work and pressure from SDD continues to slow progress. For month-end January, LRIP 1 is averaging ~7.4 months late to DD-250 dates. This is a regression of ~0.5 month from month-end December. LRIP 1 estimated realization rates were not achieved, resulting in additional hours required for Wing build. Product Focus Team efforts, Wing-at-Mate improvements, and supply chain improvements will not be seen until later LRIP builds. AF-7 shows that ██████ EMAS activities finished on 11 Jan 2010, identical to AF-6's 120 day variance from the ██████ baseline. AF-6 and AF-7 are ~78% complete. The original LRIP 1 Period of Performance ended on 28 Feb 2010.

LRIP 2 – For month-end January, LRIP 2 aircraft are averaging ~3.9 months late to their DD-250 dates. Once again, this is an improvement over the past two month-end behind schedule positions. Slight improvements in Structural Mate areas, mitigation efforts, and the re-prioritizing of ██████ activities by Production contributed to the improvement. Although there has been recent improvement, early DD-250 deliveries are not expected to be achievable. Revised DD-250 dates are projected in the second quarter of 2010 once vetted through senior acquisition executives. All LRIP 2 Forward Fuselages, Wings, Centers and Aft Fuselages remain in-work. AF-8 (first CTOL in lot) critical path has -89 days total slack to contract DD-250 date, while BF-6 (first LRIP STOVL) critical path shows -58 days total slack to DD-250 date. BF-11 Forward shows J270-2 Auto Drill activities finished on 4 Jan 2010, a 40 day variance to the ██████ baseline. As of month-end January, all but two Forward Fuselages should have completed per ██████ – non are at 100%. AF-8 through AF-13 average ~95% complete, and BF-6 through BF-9 average ~70% complete. LM Aero concerns continue to be timely availability of tooling and late part deliveries to various SWBS's.

LRIP 3 – LRIP 3 aircraft that have passed their baseline start dates have degraded from the previous average of less than 1 month late, to ~1.9 months late to their DD-250 dates. New schedule regression can be attributed to critical path item against CTOL aircraft – ██████ beyond baseline ██████ start. Partial mitigation necessitates changing install point from ██████

CAM is working with supplier to improve delivery and Production does not believe that the [REDACTED] will delay DD-250. Schedule pressure from SDD and earlier LRIP builds has been assessed and is included in a factory replan as part of [REDACTED] development, currently projected for June 2010. Early LRIP 3 aircraft DD-250 dates are expected to move to the right. Forward Fuselage for BF-12, AF-14, BF-13, BF-14 and AF-15 are in-work. BF-12 and AF-14 both finished PMM activities with only a 16 day variance to the [REDACTED] baseline, the least amount of variance to date. Wing work for BF-12, AF-14, BF-13, AF-15, BF-14, AF-16, AF-17 and BK-1 continues. BF-14 and AF-16 started [REDACTED] activities ~ 1 month late to the baseline, matching the pace of previous [REDACTED] starts. For month-end January, [REDACTED] now working on ten [REDACTED] assemblies, with the first four LRIP 3 Centers at over 50 % complete. [REDACTED] has begun work on the [REDACTED] for BF-12, AF-14, and BF-13. [REDACTED] work is projected to begin on schedule in early 2010. BF-12 (first STOVL in lot) critical path shows -23 days total slack to contract DD-250 due to projected late delivery of [REDACTED] Modules – CAM is working with supplier to mitigate issue. AF-14 (first CTOL in lot) critical path shows -75 days total slack to contract DD-250 due to receipt of internal gun. Concerns for the availability of tooling (LRIP 2 delays) continue.

LRIP Breakdown - DD-250 Performance (M-Days)
12 Month History



Contractor Actions: Mitigation activities include; use of overtime, span adjustments, and out of station installations for late parts continues. Another revised Program schedule [REDACTED] will is projected for summer 2010.

DCMA Actions: **Note:** This will be the seventh schedule since Program inception. LRIP 3 is averaging ~3.4 months late. LRIP 3 schedule regression above is attributed to supplier deliveries – mitigation has since occurred. DCMA LMFV Team members continue to mature performance indicator sub-indicators to assess key build event progress on LRIP aircraft. These indicators will utilize data from the IMS and various shop floor systems.

Estimate when indicator will achieve goal: LRIP deliveries are not projected to be met until sometime in LRIP 3, and are largely dependent upon Wing-at-Mate overlap elimination, timely availability of tooling, change integration, part deliveries and alignment of EBOM, MBOM and As-Built data. BF-13 is the pacing aircraft for schedule recovery. For month-end January, BF-13 is ~22% complete compared to

~43% complete scheduled. Forward is ~38% versus 44%, and Wing is ~30% versus 62%. BF-13 is projected to be 12 M-day's late to the 31 May 11 DD-250 date.

Sub-Indicator – System Check Out Completion Progress (SCOP) LRIP Aircraft

The following table depicts the SCOP completions per LRIP aircraft. The table includes the total SCOPs planned per aircraft, the number of SCOPs completed as of this reporting period (10 Mar 2010), the percentage of SCOPs completed relating to the total planned for the specific aircraft and the percentage of testing completed prior to test article rollout from the factory to the Fuel Barn. Since no LRIP aircraft have move from the factory floor to Field Operations, the baseline rollout date is annotated in its place.

SCOP Completions per Test Article / Aircraft (A/C)

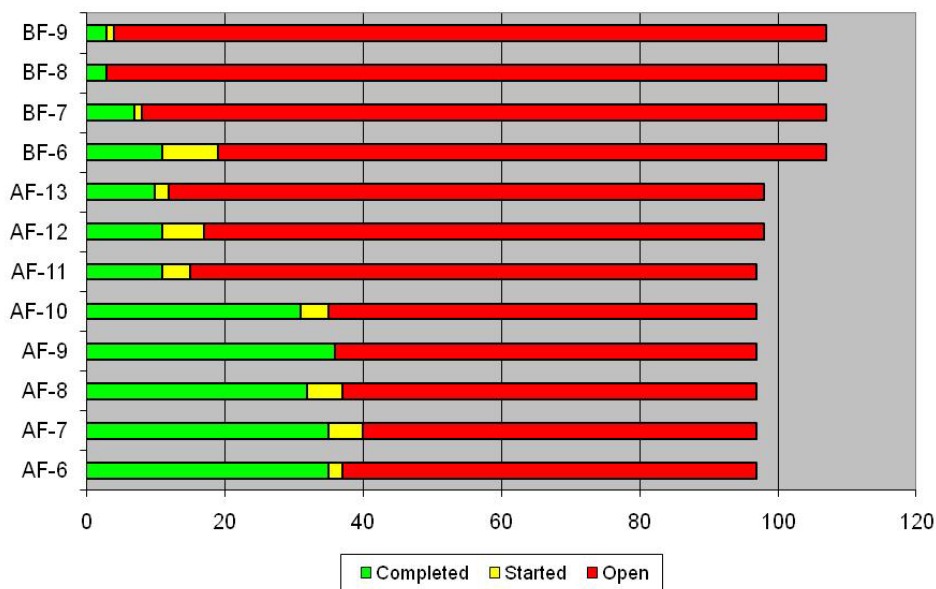
Test Article	Total SCOPs Planned	SCOP Completed	%Complete (Total A/C)	
AF-6	97 ¹	35	36.08 %	10/7/09
AF-7	97 ¹	35	36.08%	10/28/09
AF-8	97	32	32.99%	11/25/09
AF-9	97	36	37.11%	1/5/10
AF-10	97	31	31.96%	2/2/10
AF-11	97	11	11.34%	3/2/10
AF-12	97	11	11.34%	3/30/10
AF-13	97	10	10.31%	4/27/10
BF-6	107 ¹	11	10.28%	5/25/10
BF-7	107 ¹	7	6.54%	6/23/10
BF-8	107	3	2.80%	
BF-9	107	3	2.80%	

¹ SCOPs removed from the effectivity during this reporting period.

SCOP 2MWC01304, [REDACTED]

This chart depicts the current SCOP completion status for all flight test articles in LRIP 1 & 2. List is organized by current firing order as depicted in [REDACTED]

LRIP SCOP Completions - Aircraft



The following table is provided to track Wing specific SCOP testing prior to move to mate and percentage of testing completed prior to test article moving from the Factory Floor to the Fuel Barn.

SCOP Completions on Wing Assemblies

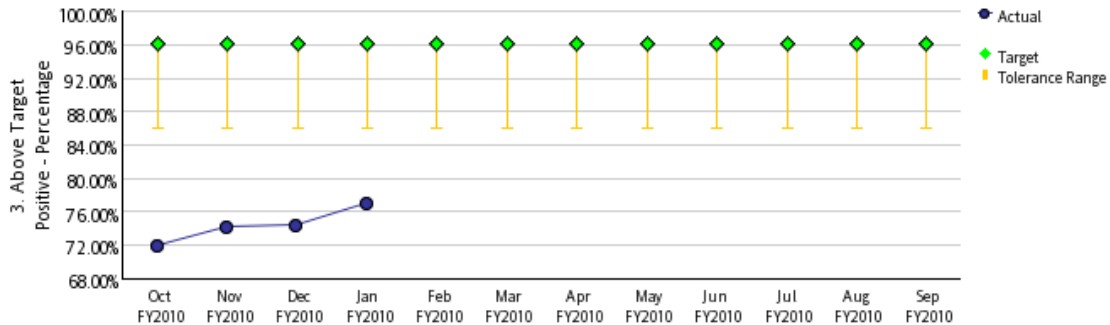
Test Article	Total SCOPs Planned to Date	%Complete (No. SCOPs Completed)	% Complete Prior to Rollout	Avg Days Behind for Completed Tests
AF-6	17	82.4% (14)	-	-152
AF-7	17	88.2% (15)	-	-147
AF-8	17	82.4% (14)	-	-144
AF-9	17	94.1% (16)	-	-136
AF-10	17	76.5% (13)	-	-121
AF-11	17	52.9% (9)	-	-108
AF-12	17	17.7% (3)	-	-61
AF-13	17	23.5% (4)	-	-70
BF-6	20 ¹	15.0% (3)	-	-64
BF-7	20 ¹	0.0% (0)	-	-
BF-8	20	0.0% (0)	-	-
BF-9	20	0.0% (0)	-	-

¹ New wing specific SCOPs added this reporting period

* Wing testing is still in-work. Travelled work from SWBS 400 to SWBS 800 will be in effect until end of LRIP 3. Value is not final until all testing is completed.

Improve Supplier Delivery Rate

NSF198AJ21: Description: JSF Key Suppliers have an average delivery rating of greater than or equal to 96 percent. JSF Key Suppliers are determined by analyzing category 3 and 4 shortages to jig load. JSF Key Suppliers may be adjusted on a quarterly basis as new issues emerge. This indicator is a monthly average percent of lots delivered on-time for JSF Key Suppliers. The goal is to achieve an average of 96 percent or greater on-time lot delivery rate. Supplier delivery data is obtained from LM Aero's Supplier Quality Management and Procurement Quality Network databases. These databases are updated on approximately the 15th of each month. The monthly data from each database is reflective of the previous month's performance. This indicator will be updated within one week of the LM Aero database updates. Green: 100.0 to 96.0%, Yellow: 95.9 to 87.0%, Red: ≤86.9%.



Indicator Status: Red

Trend: Improving Trend Line – Improvement of +3% over prior period.

Summary of Indicator Status: Key Suppliers average Delivery Rate was ██████ month end January 2010.

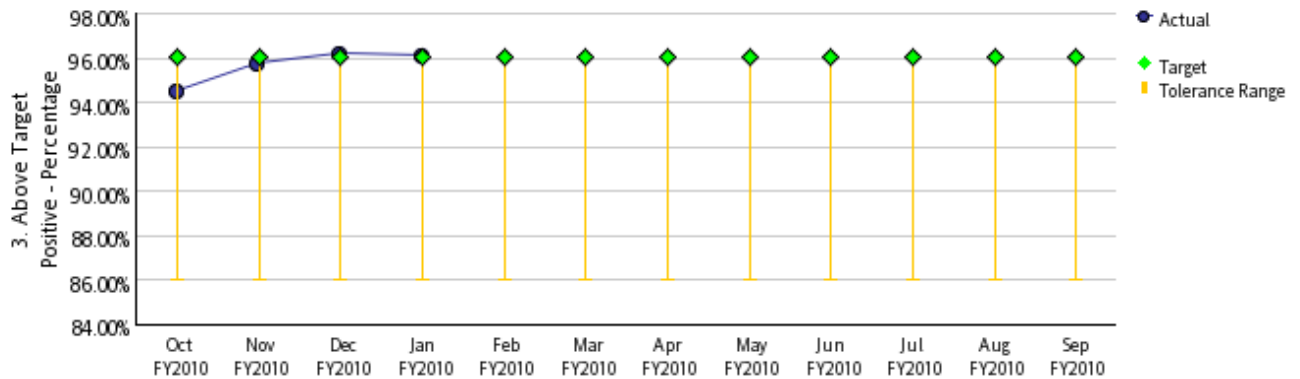
Root Causes: Suppliers with notable delivery rates were:

Component (Contractor)	Delivery Rate	Component (Contractor)	Delivery Rate
██████████	██████████	██████████	██████████ ↔
██████████	██████████	██████████	██████████ ↔
██████████	██████████ ↓	██████████	██████████ ↑
██████████	██████████	██████████	██████████ ↑

Estimate when PC will achieve goal: Based upon performance to date, it is projected to achieve target of 96% by third quarter of 2013.

Improve Supplier Quality Rate

NSF198AJ10: Description: Each delegated supplier has quality ratings greater than 96 percent. The total LM Aero Quality rating for key suppliers (areas of consideration are: cost, issues, technical, criticality). The top suppliers are summed and divided by quantity which gives an average QA rating per month. The goal is to achieve an average of greater than 96%. Supplier quality data is obtained from LM Aero's Procurement Quality Assurance database and indicator updated no later than the 20th of each month. Green: ≥96%, Yellow: 87 to 95%, Red: <87%.



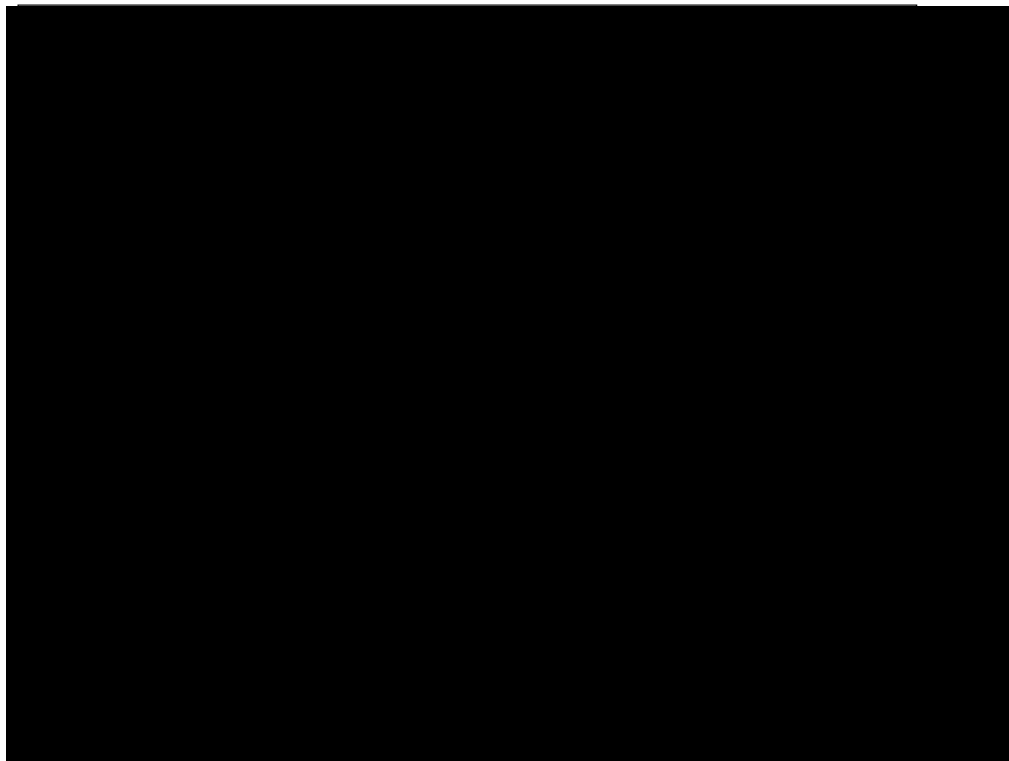
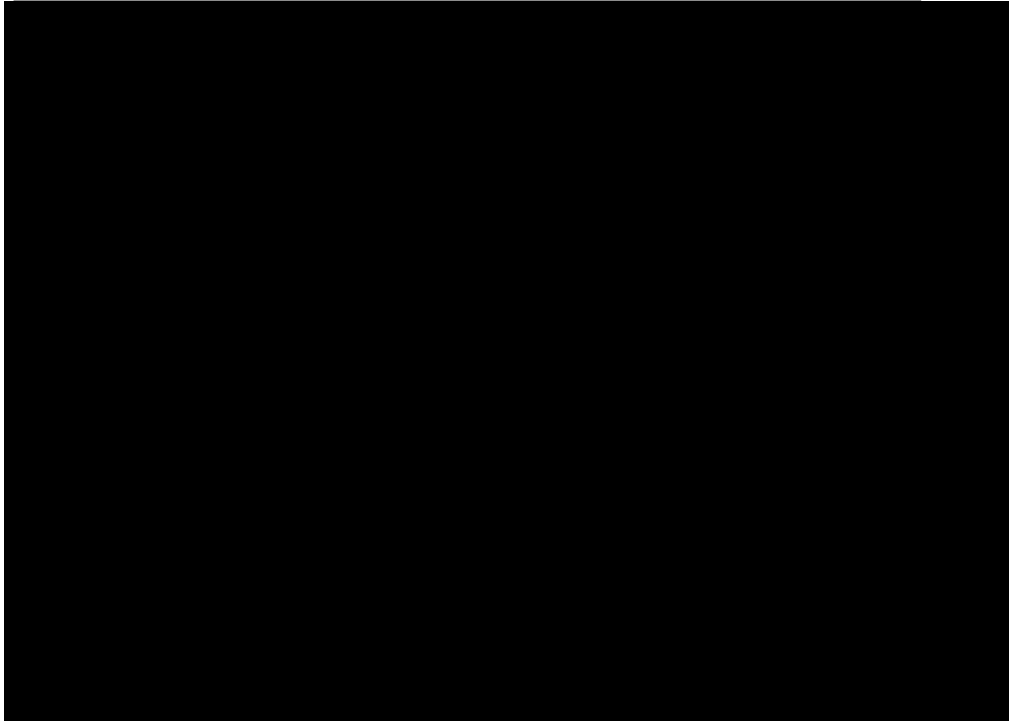
Indicator Status: Green

Trend: Improving trend for overall supplier quality. F-35 assessment of 53 Key Suppliers average Quality rating was 96.28% month end January 2010. Suppliers with notable quality ratings were: [redacted] with [redacted] and [redacted] with [redacted]. Lower percent for both suppliers attributed to method of calculation and inclusion of multiple sub system components.

Non-Conformance Reduction

Defects per 1000 actual manufacturing hours by 10% per year. Metric is based on contractor provided data that is collected updated in metrics manager NLT the 20th of each month and averaged against all prior months to illustrate normalized trend. Green: <goal of 18.90, Yellow: within 10% of the goal, Red: >10% above the goal of 18.90.

Lockheed Martin Fort Worth data



Data as of: 10 Mar 2010 Lower metric shows LM Fort Worth top five defect drivers overall for the past 6 months.

Metric Status (Green – Yellow – Red): Green

Trend Improving: LM FW goal for CY 10 is [REDACTED] months normalization is [REDACTED] data for past 6 months. The average normalized for 2007 thru CY 2010 is [REDACTED]

Summary of Metric Status: Metric illustrates improving trend that has been maintained for the CY10 period. Although they had a minimal increase of defects for Feb 10, they continue to reduce MR defects per 1000 HRS well below their goal of 16.4. Defects may be further reduced as they did not have Standard Repairs coded correctly in QADS.

Root Causes: N/A

Contractor Actions: They continue to reduce defects and are exceeding their goal CY10.

DCMA Actions: Revisiting goal of [REDACTED] to reflect progress in reducing the amount of MRB actions for this year. We have completed two MR training sessions this quarter for QAS and Engineering personnel. The goal is for the QAS team start accepting and rejecting minor non-conformances by 15 Apr 2010.

Estimate when PC will achieve goal: PC has achieved goal set for CY10.

Below is MR data from select subcontractors:

[REDACTED]

Trend: Red.

Summary of Metric Status: DCMA is still attempting to gain access to in line MR which [REDACTED] had denied. The Corrective Action Plan (CAP) for Corrective Action Request (CAR) [REDACTED] Failure to control suppliers, has been accepted by DCMA and Appendix Q is being update to correct the issue.

[REDACTED] preparing to re-start the STOVL [REDACTED] Qualification Test the week of 01 Mar 10. Testing has been on hold for over eight weeks due to a [REDACTED] It was concluded that a [REDACTED] The path forward was to replace the [REDACTED] This will negatively impact the schedule by an additional two months. [REDACTED] current recovery plan is to complete testing by 14 May 10, which will put the schedule behind by 20 months.

[REDACTED] submitted a Vendor Request for Material Review (VRMR) for an [REDACTED] condition of the [REDACTED] [REDACTED] has classified the [REDACTED] as a minor non-conformance and dispositioned it "use as is". IAW MIL-HDBK-61A and multiple other contract reference documents, any non-conformance involving weight should be classified as major. DCMA [REDACTED] has advised [REDACTED] of the misclassification and issued a CAR for failure to follow their VRMR Procedure.

Root Causes: Misclassification of VRMR

Contractor Actions: [REDACTED] does not consider the [REDACTED] a major variance.

DCMA Actions: DCMA [REDACTED] has advised [REDACTED] that they are not authorized to disposition a major or critical non-conformance. IAW FAR 46.407, the Contracting Officer is the only person that can authorize the disposition of a major or critical non-conformance. Issued CAR #2010-01 on 12 Feb 10. On 22 Feb 10, [REDACTED] stated in their CAR Response that they do "...not consider the defect in question to be a Major NC due to the fact that it does not violate a contract requirement flowed down from LM Aero." DCMA [REDACTED] has conducted a process audit on [REDACTED] Vendor Requests for Material Review (VRMR). Upon review of the VRMR procedure, DCMA [REDACTED] noted that QSP-INS-54.3, para. 4.1.1 states a VRMR is "a document used by suppliers to submit minor non-conformances..." Audit is ongoing. DCMA [REDACTED] CAP and is awaiting response. If the response is found unacceptable, we will recommend to DCMA Management that the CAR be elevated to a Level III.

DCMA [REDACTED] will continue to report on this issue until closure.

Estimate when PC will achieve goal: Awaiting CAR resolution.

Trend: Improving – Green (Red last period)

Summary of Metric Status: [REDACTED] back under target at 9.41 Defects per 1000 Manufacturing Hours for the month of January after having exceeded the target for the previous two months (12.87 for November 09 and 15.08 for December 09). [REDACTED] reports, DCMA [REDACTED] concurs, that there is no explanation for the jump in [REDACTED] hours; all other related data collected shows a downward trend. The data integrity of this measure will always be in question until the measure is changed and for this reason it is difficult to predict if the target will again be exceeded.

Root Causes: [REDACTED]

[REDACTED] position is that they are not on contract for Non-recurring, recurring effort related to [REDACTED]. The recurring aspects are likely to be contracted from LRIP Lot 6 onwards. The only [REDACTED] work currently contracted to [REDACTED] via Change Request (CR) to set a [REDACTED] flag in Metaphase for all those parts identified as [REDACTED]. They are the design authority and Paragraph 2.4.1 of Appendix QX Rev 4 provides them MRB authority and they will continue to process MRB actions on parts identified as [REDACTED].

Contractor Actions:

[REDACTED] and DCMA [REDACTED] are moving forward with a joint Government-Contractor approach to MRB. Short term: 1) [REDACTED] will arrange for a [REDACTED] employee with [REDACTED] to sit with DCMA [REDACTED] to allow MRB review to take place; 2) Questions/concerns will be manually logged and MRB actions will not be approved by [REDACTED] Quality until all DCMA concerns are addressed and; 3) reviews commenced 8 Feb 2010. Long term: 1) DCMA will be granted access to the [REDACTED] database to review MRB actions; 2) [REDACTED] training will be provided to DCMA [REDACTED] personnel; 3) A user group field within the [REDACTED] database will be defined to allow different members of DCMA [REDACTED] and MOD MRB approval sign-off authority; 3) an agreement to control time limits on approval will be reached and 4) [REDACTED] will identified DCMA [REDACTED] as a signatory authority in their MRB procedures.

DCMA Actions: DCMA [REDACTED] has suspended review of all MRB action regarding parts identified as [REDACTED].

Estimate when PC will achieve goal: They have achieved the goal for this reporting period.

Trend: Degrading – ACC January CoPQ was [REDACTED] (Green); Feb CoPQ [REDACTED] (Yellow)

Summary of Metric Status: The [REDACTED] The 2010 average to date is [REDACTED]. From 1 Feb-19 Feb, total repair cost was [REDACTED] and scrap cost was [REDACTED] reported [REDACTED] costs drivers for February were [REDACTED] cost drivers of [REDACTED]

PMM (Precision Milling Machine) availability improved significantly in Feb after experiencing re-start problems due to the 2009 year end site shutdown. ACC will be the first to be impacted by suspension of LRIP 4 long lead (LL) effort on 1 Mar 10. [REDACTED] s scheduled to start LRIP 4 ducts in late March.

Root Causes: [REDACTED] attributes high repair costs to [REDACTED], which DCMA is verifying.

Contractor Actions: N/A

- Performing Formal Root Cause Corrective Action for various process deficiencies
- [REDACTED]
- PMM improvement maintenance contract with DST

DCMA Actions: DCMA provided input on ACC annual Nonconformance reduction goal for 2010. [REDACTED] reduced [REDACTED] by 3rd quarter CY2010. DCMA will monitor and report [REDACTED] progress on their target as well as Corrective Actions.

Estimate when PC will achieve goal: Q3 CY10 - implement continuous process improvements.

DCMA [REDACTED]

Trend: Red

Summary of Metric Status: DCMA is not reporting on MR due to LM Aero's failure to flow down FAR 52.246-3 requirement to suppliers. A CAR was written to address this situation.

Root Causes: [REDACTED] is using Configuration Management Certifications' and delivering product with quality/design deficiencies "as engineered" configurations.

Contractor Actions: [REDACTED] s coordinating classification determinations with their customer-LM Aero. Nonconformance documents have stand alone corrective action statements or referred to Corrective Action Board for resolution. The MRB decisions do impact the planned use of the disposition hardware and results in partial functionality and/or retrofitting delivered hardware to "as engineered" baseline configurations, which is currently being discussed with LM Aero.

DCMA Actions: DCMA Aeronautical Systems Division, DCMA LM Fort Worth has written a Level II, CAR, [REDACTED] o give the Government at [REDACTED]

Estimate when PC will achieve goal: Awaiting resolution of CAR [REDACTED]

Trend: Green

Summary of Metric Status: The average for the past 4 months is [REDACTED] his is below the DCMA goal.

* In Jan, QARs and dispositions were reduced from 56 to 44 and only [REDACTED]

Root Causes: Findings and possible trends include [REDACTED]

[REDACTED] in some discrepancy documentation.

Contractor Actions: The contractor is continuously developing A-3 corrective actions on the main high drivers of [REDACTED] DCMA is participating in review of their newly established corrective action meeting and the ongoing efforts to identify root causes and appropriate corrective action.

DCMA Actions: Participation in MRB has greatly enhanced surveillance activities. Reviews conducted for 32 dispositions; 1 disapproval for [REDACTED]

Estimate when PC will achieve goal: Achieved goal.

Trend: Improving Green

Summary of Metric Status: Monthly target is the [REDACTED] annual reduction goal weighted across FY 10 and is normalized using FY 2009 rejected quantity of [REDACTED] pieces. The goal for January is [REDACTED] and January data (cumulative data of 4 months) is [REDACTED]. January data is showing [REDACTED] compliance.

Root Causes: In January, there was 1 rejection:

-1 piece of item [REDACTED]

Contractor Actions: Contractor will resolve nonconforming by [REDACTED]

DCMA Actions:

- Continue attending Configuration Board meeting to ensure timely implementation of drawing changes.
- Continue interface with project engineers to ensure robust manufacturing process is in place.
- Trended high hitters (by P/N, defect & cause codes), identify causes of nonconformances: design, manufacturing, resource, handling etc, and request CA if needed.
- Ensure dispositions and corrective actions will not impact logistics, interchangeability or other component installations.
- Follow Heat Exchangers' core (Item 221, 218, & 1) brazing and welding process to ensure Production Improvement processes are effective.
- Will continue to evaluate the characteristics of the noncompliances and determine performance, and installation impacts. Assembly drawings and aircraft installation group will be consulted.

Estimate when PC will achieve goal: Annual reduction goal will likely be achieved; however delivery is slipped due to MRB activities. Additional efforts on nonconformance prevention will benefit the program.

Maintain Cost and Schedule

NSF198AJ08: Description: Resource requirements are aligned in support of funding and budget allocations. IEAC data and projections match actual performance within + / - 10% of contractors budget at completion. DCMA Independent EAC is measured against the prime contractor's BAC. DCMA includes risk, pressures, cost and schedule variances as compared to LM Aero BAC. The source of EV data comes from the monthly JSF SDD Cost Performance Report which lags by 1 month. Indicator is updated in Indicators Manager as soon as data is received from contractor (**approximately 45-60 days after end-of-month**). This is represented as the contractor's BAC as the Numerator divided by DCMA's IEAC as the Denominator - with a 10 percent tolerance band. Green: 1.0 to 0.95 variance (5%), Yellow: 0.95 to 0.90 variance (5% to 10%), Red: 0.90 or greater variance (>10%).

Lockheed Martin is now reporting to an Over Target Baseline of [REDACTED] as of the January 2010 Cost Performance Report (CPR). DCMA IEAC is [REDACTED] for the SDD contract.

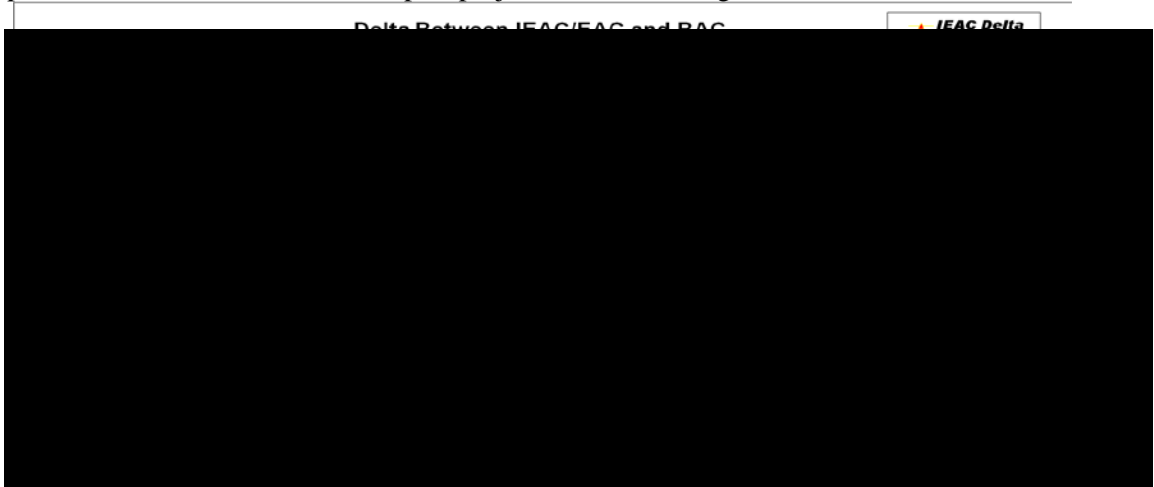
The Under Secretary of Defense, through ADMs dated 24 Feb 10 and 3 Mar 10, directed the JSF program to restructure. None of outlined changes were incorporated into this month's report. This report is based solely on the CPR data as of 31 Jan 2010.

LM Aero has expended an average of [REDACTED] per month over the last six months. Assuming a continuance of this expenditure rate, DCMA projects the existing SDD budget with OTB may be depleted in Jul/Aug 2011. [REDACTED]

LM has prepared EAC9 cycle 2 incorporating DCROM base of potential threats and pressures in the November 09 CPR report. The EAC9cycle 2 is under DCMA review to verify that potential suppliers' cost growth, future TCRs, etc are considered in the DCROM. The LM's EAC8 projected MR was zero and therefore unavailable to offset any risks remaining in flight testing and software coding. Preliminary assessment by LM indicates that an additional amount of over [REDACTED] will be required to complete the SDD contract. LM has started working in a new EAC 10 Cycle 1 and the new estimates will be incorporated in the March/April 2010 CPR.

Using the Standard formula based on cumulative SPI and CPI (since replan Jun 2008) yields an SDD increase of [REDACTED] over current LM Aero BAC. With the addition of risk factors such as, Suppliers' cost growth, late to Need parts, Schedule Impacts, Production Delays, etc DCMA's EAC is [REDACTED] against LM Aero BAC of [REDACTED]. Thus the DCMA's IEAC is [REDACTED] higher than LMs BAC or [REDACTED] higher than LM's EAC. The DCMA's IEAC includes the threats and pressures at [REDACTED] replacement of BF-4 STOVL lift door, repairs and/or replacement of WB Doors and LF Exhaust Doors. Based on limited available data, the repair/replacement costs have been estimated roughly as [REDACTED] dollars.

The graphs below illustrate the DCMA's past projections of IEAC against LM Aero's BAC and LRE.





The December 2009 SDD/LRIP cost summary and Program status is as follows:

SDD	BAC	LM EAC CPR	DCMA IEAC
Performance Measurement Baseline (PMB)	[REDACTED]	[REDACTED]	[REDACTED]
Management Reserve (MR)	[REDACTED]	[REDACTED]	[REDACTED]
Total:	[REDACTED]	[REDACTED]	[REDACTED]

LRIP 1	BAC	LM EAC CPR	DCMA IEAC
Performance Measurement Baseline (PMB)	[REDACTED]	[REDACTED]	[REDACTED]
Management Reserve (MR)	[REDACTED]	[REDACTED]	[REDACTED]
Total:	[REDACTED]	[REDACTED]	[REDACTED]

LRIP 2	BAC	LM EAC CPR	DCMA IEAC
Performance Measurement Baseline (PMB)	[REDACTED]	[REDACTED]	[REDACTED]
Management Reserve (MR)	[REDACTED]	[REDACTED]	[REDACTED]
Total:	[REDACTED]	[REDACTED]	[REDACTED]

LRIP 3	BAC	LM EAC CPR	DCMA IEAC
Performance Measurement Baseline (PMB)	[REDACTED]	[REDACTED]	[REDACTED]
Management Reserve (MR)	[REDACTED]	[REDACTED]	[REDACTED]
Total:	[REDACTED]	[REDACTED]	[REDACTED]

Budget Baseline and EAC Summaries

Contract Data	KT 1	KT 2	KT 3	KT 4
Contract #	N00019-02-C-3002	N00019-06-C-0291	N00019-07-C-0097	N00019-08-C-0028
Name	JSF SDD	LRIP 1	LRIP 2	LRIP 3
Contract Type	Cost Plus Award Fee	Cost Plus Award Fee	Cost Plus Award Fee	Cost Plus Award Fee
Obligated Amount	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
ULO	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Performance Start/End	Oct 2001/Oct 2014	May 2007/Feb2010	Apr 2010/Feb 2011	Mar 2011/Dec 2011

Primary Trip Wires		Secondary Trip Wires						
System Indicator	Baseline Indicator	Cum BEI	SPI	Cum CPLI	CPI	CPI/TCPI 10%	Contract Mods	Baseline Revs 5%
[REDACTED]						9.7%	[REDACTED]	N/A

Primary Trip Wires –

(a) System Indicator: Please see attached EV report.

(b) Baseline Indicators: A baseline assessment shows the contractors SDD BAC and EAC to be optimistic. To complete the contract within the CBB, the contractor needs to be about 9.2 percent more efficient. The BAC has increased by 40% since the start up in Oct of 2001. The cost growth is likely to increase due to inherent flight test risks in the early versions of CTOL, STOVL and CV aircraft.

Secondary Trip Wires –

- SDD CPLI = $(1662 + (116)/1662) = 0.90$ (Time Now = 28 Feb 10)
- SDD Baseline Execution Index (BEI): Cumulative tasks from October 2001 thru February 2010: Cum BEI = 145,894 Completed Tasks/149,719 Planned Tasks = 0.97
- Monthly BEI (Feb 2010) Tasks: 184 Completed Tasks vs. 589 Planned Tasks = .35
- SPI (since replan Jun 2008) = BCWP/BCWS = 0.975
- CPI (since replan Jun 2008) = BCWP/ACWP = 0.949
- CPI/TCPI = $0.949/1.051 = .903$
- Contracts Mods – (BAC now)/original BAC 10/01 = [REDACTED] = 1.40

The DCMA Risk Rating for EVMS at the program level is rated yellow down from a rating of Green last period, using the parameter of VAC (-5.320%). Compare this to the Lockheed's LRE and this difference narrows to 3.727%.

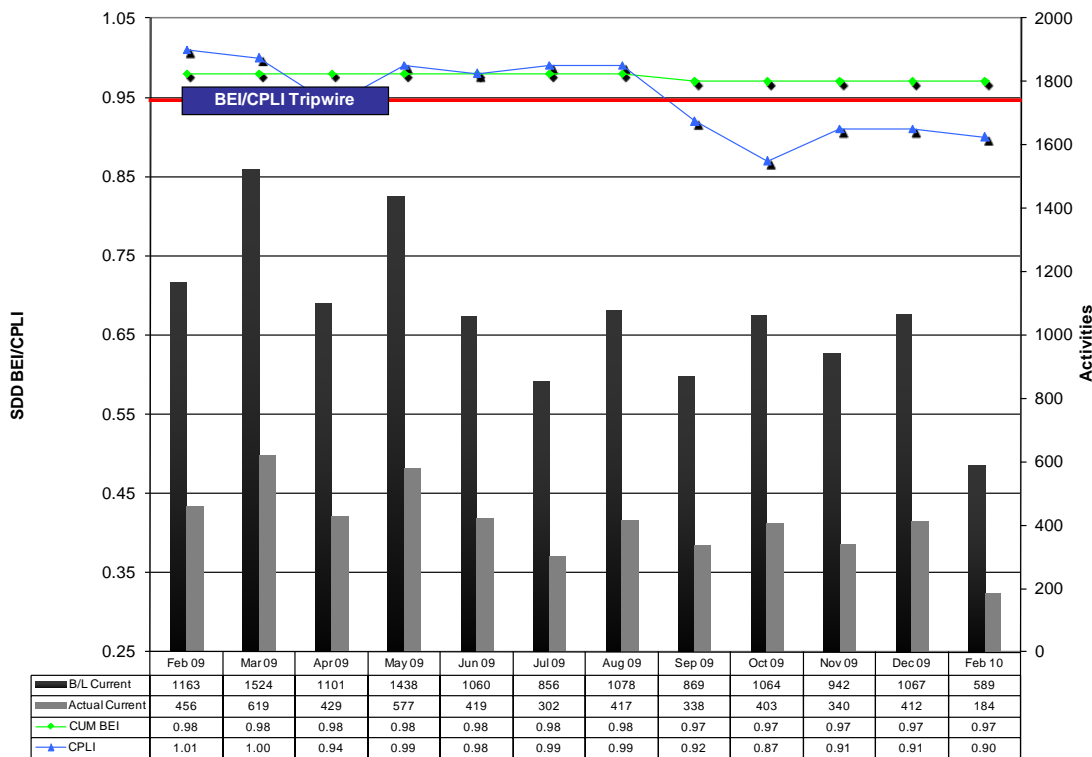
Similarly, the TCPI_{EAC} is different, for the DCMA IEAC versus the contractor's EAC:

$$\begin{aligned} \text{TCPI}_{\text{DCMA IEAC}} &= 0.862 \\ \text{TCPI}_{\text{LM EAC}} &= 1.051 \end{aligned}$$

The SDD Baseline Execution Index (BEI) indicator is an Integrated Master Schedule (IMS) based indicator that calculates the efficiency with which actual work has been accomplished when measured against the baseline. The BEI provides insight into the realism of Program cost, resource, and schedule estimates. For BEI, an index of <.95 is used as a warning indication of schedule execution underperformance. Goal is to achieve BEI values ≥.95. Cumulative BEI equals actual tasks/activities completed divided by the baseline total tasks/activities.

The SDD Critical Path Length Index (CPLI) indicates whether or not the Program schedule can be completed on time. This is an Integrated Master Schedule (IMS) based indicator that utilizes the critical path methodology definition being: the longest, continuous sequence of tasks through the network schedule with the least amount of float, from contract start to contract completion. After contract start, the critical path is always measured from "time now" until contract completion. For CPLI, an index of <.95 is used as a warning indication that the Program will not complete on time. Goal is to maintain CPLI values ≥.95. Critical Path Length Index (CPLI) equals the Critical Path Length (CPL) plus or minus the Total Float (TF) divided by the Critical Path Length (CPL). The target efficiency ratio for both indicators is 1.00. An index greater than 1.00 is favorable, and an index less than 1.00 is unfavorable. ≥.95 = Green .90 to <.95 = Yellow <.90 = Red

SDD Baseline Current vs. Actual Current Finishes/Month
Program Cum BEI / CPLI Trend



Cumulative SDD Program BEI is at 0.97, while Cum CPLI is at 0.90 for month end February 2010. Monthly planned finishes versus actual performance continues to average an approximate 40% completion rate. MS 6.1 baseline replan dates were incorporated into the IMS month-end May 2008. Master Schedule 6.2 is currently projected for June 2010.

Earned Value

The complete EV report is attached



JSF EV Jan 2010.docx

Appendix A – EV Assessment Criteria

Rating Criteria is based on the DCMA VAC% and when possible should include MR in the DCMA IEAC

- Green** - VAC% > -5%
- Yellow** - -10% < VAC% < -5%
- Red** - VAC% < -10%

N/R - Not Rated or Not Reported