Joint Strike Fighter – Lightning II
Monthly Assessment Report

Prepared by DCMA Lockheed Martin Fort Worth

February 2010

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DCMA Monthly Summary of Activities and Events

Flight Test: AF-1 has entered a calibration refurbishment/modification period – flights are planned to resume in March 2010. AF-2 started [redacted] system checkout and discovered issue with [redacted] Check out will continue after successful resolution. BF-3 accomplished first flight on 2 Feb 10. BF-3 ferried to PAX on 17 Feb 2010 after several Airworthiness flights were accomplished.

SDD Replan: LM Aero has concluded that the budget and schedule for the remaining work in the SDD program is insufficient and has requested another OTB/OTS. The request includes a replanning effort that will set BCWP=BCWS=ACWP (S=P=A) for all work packages except for suppliers' contract and purchase order issues. LM Aero's request for this OTB/OTS and replanning includes variance analysis in Format 5 of CPR reports (from February 2010 through incorporation of OTB/OTS) to be scaled down significantly with few explanations and calculation of BCWP based on physical assessment (versus defined per cent completion). At this time, the JPO is reviewing the request and has not made a decision on the proposed OTB/OTS, replanning to the new OTB/OTS, and scaled down reporting of Format 5 in CPR reports. JPO also has not made a determination whether the new OTB/OTS breaches the Nunn-McCurdy criteria.

Schedule / DD-250 Deliveries: [redacted] is projected for mid-CY2010. For month-end December, LRIP 1 average is ~6.9 months late to [redacted] DD-250 dates – LM Aero has submitted a draft contract modification to the government as a result of contractual DD-250 dates that cannot be achieved per the current schedule. LRIP 2 aircraft are averaging ~5.3 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 are averaging less than 1 month late to their DD-250 dates. The On-Time LRIP Aircraft Delivery section of this report provides more detail of LRIP build activities.

[redacted] completed the BF-9 [redacted] (AF-9 & AF-10) in January. These assemblies averaged 10.7 M-days late to contract, an improvement from December value of 19 M-days late. There are only three major assemblies overdue for completion, the [redacted] for AF-11 and the [redacted] for AF-10 & AF-11. The last four [redacted] BF-6 thru BF-9, have been held at [redacted] awaiting out-of-station incorporation of [redacted] This CR has been incorporated on BF-6 and the assembly was shipped to LMFW the last week of January. BF-7, BF-8 and BF-9 should be completed in February. LMFW is in the process of revising [redacted] LRIP 2 and LRIP 3 contract delivery dates to realign with LMFW [redacted] mate dates and reduce the volume of traveled work from [redacted].

[redacted] discovered a production/assembly issue in which [redacted] has bounded the problem and cleaned affected tools, parts and assemblies, where accessible. Five [redacted] (BF-6 - BF-10), three [redacted] (AF-9 - AF-11) and Three [redacted] (AF-9 - AF-11) cannot be fully cleaned without extensive disassembly. The BF-11 and BF-12 [redacted] were also affected, but were thoroughly cleaned prior to assembly. A fatigue test will be conducted to verify there are no long term effects from the [redacted] Once begun, testing should take approximately 8 weeks to complete. [redacted] expects these units will be shipped with an open nonconformance pending results of the testing.

[redacted] AF-13 [redacted] shipped on 18 Jan 10. BF-6 is expected to ship on 23 Feb 10 to support LM Aero EMAS load date of 1 Mar 10. 104 hours of travelled work (93 hours [redacted] and 11 hours [redacted] is projected. LM Aero has revised contract delivery dates for LRIP 2 [redacted] deliveries to better align assembly operations at LM Aero and allow [redacted] o incorporate more approved changes prior to delivery. Recent STOVL wire harness changes are requiring significant de-build of BF-6 through BF-11 and has increased schedule risk. [redacted] is currently developing a plan to implement LM Aero schedule direction, but has not committed to the new contract dates. Assembly operations are over burning 60-70 Equivalent Personnel to incorporate wire harness changes.

Manufacturing Management & Accounting System (MMAS): Near the end of January 2010, LMFW loaded a new JSF Shop Operating Plan (SOP). The new SOP had a significant favorable effect on most of the LMFW JSF material shortage numbers and according to LMFW material management comments, has requirements that are offset by a month from the [redacted] requirements. Although the requirements disconnect raises some concern, it may be an attempt to introduce less optimistic/more realistic JSF schedule recovery goals prior to the [redacted] Launch 2 for JSF, which is currently forecasted for the late April, early May 2010 timeframe. In addition, LMFW production engineering is setting a goal of one (1) percent Bill of Material [redacted] mismatch backlog by the end of March 2010 to prepare for the [redacted] Launch 2.

LMFW Process Integrity currently plans to conduct basic system integrity check audits of the [redacted] Launch 2 and 3 incremental cutovers from the existing [redacted] system during the 1 and 2 quarters of 2010. Due to potential impacts to the JSF production ramp-up efforts, the DCMA JSF team has requested to participate in these audits, as a joint process reviews.

Maintenance and Quality Verification Stand-Down: DCMA completed the first draft of its independent review of LM Aero's Maintenance and Quality Verification Stand-Down analysis. The report will undergo an internal review and coordination process before findings are distributed by the end of 1QTR CY2010. DCMA analysis includes reviewing data LM Aero used to make their recommendations and providing an independent assessment. DCMA will report the status of this activity in the JSF MAR until completed.

Component Summaries

[redacted] has received 3147 pieces of suspected [redacted] It has been determined that these parts do not affect the [redacted] The parts were delivered to [redacted] where they were purged before they got into any manufacturing flow.

[redacted] has announced a consolidation of two divisions. [redacted] At this time, we believe the effect on the [redacted] program will be minimal; however the DCMA office responsible for oversight will be impacted.

[redacted] is not tracking disposition of nonconforming material delivered from some critical vendors such as [redacted] Pending the successful conclusion of the Level II CAR concerning MRB issued by DCMA Ft. Worth, DCMA [redacted] will insure flow down of MRB approval and oversight of nonconforming material to third tier contractors.

The [redacted] program remains in the SDD phase. [redacted] recently failed the IBR for LRIP 3 due to the issue of 65% of its sub-tier contracts have yet to be definitized. The other issue seems to be the inability of [redacted] o adequately link the control accounts and IMS to the PMB. The delta IBR is scheduled for 17 March 2010.

[redacted] delivery of [redacted] has been severely impacted by the [redacted] supplier, have tentatively determined the root cause to be a [redacted] because it has a [redacted] It is anticipated that [redacted] will resume delivering sensors mid February upon delivery of new [redacted] DCMA has received copies of two Major Variances affecting all LRIP 1 sensors, S/N 20001 - 20012. Lockheed Martin Aero is aware of these Major Variances and has approved them both on December 21, 2009. DCMA engineers have reviewed the variances and determined that they are properly classified as Major since they have the potential to affect functionality. These Major Variances are:

[redacted]

[redacted]

The DCMA EVMS monitor at [redacted] has issued a Deficiency Report to [redacted] addressing the LRIP 2 CPR. The DCMA EVMS monitor is in consultation with the EVMS Center to determine if and what level CAR shall be issued. [redacted] continued tardiness of CPR submittals is also a concern since as the date of this report DCMA has yet to receive the December 2009 data.

[redacted] DCMA [redacted] rates SDD Technical Performance as Yellow. This rating is primarily due to STOVL/CV [redacted] problems and STOVL/CV [redacted] delays.

The STOVL [redacted] Qualification Test is still on hold pending approval of the path forward. It was concluded that [redacted] The recommendation is to [redacted] which were [redacted] The original [redacted] This failure may also require the re-firing of the completed [redacted] qualification rounds. [redacted] s proposing not to re-fire the currently completed rounds and accept the replacement hardware through analysis. DCMA [redacted] does not totally agree with this recommendation. DCMA [redacted] predicts that this will further impact schedule. [redacted] already has a recovery plan to complete the test 18 months behind schedule. Testing has been on hold for about four weeks and the new [redacted] are expected in about two weeks.

[redacted] generated a Vendor Request Material Review (VRMR) for an [redacted] has misclassified the [redacted] as a minor nonconformance. DCMA [redacted] has advised [redacted] of the misclassification and has informed them that a CAR will be issued if the classification is not changed from minor to major before delivery. [redacted] contended that they are not in violation of their Performance Based Specification (PBS). DCMA [redacted] will continue to follow until closure.

[redacted] DCMA Predictive Analysis is Red due to [redacted] on-dock dates, and MRB repair activity identified below. In addition, current engineering and core tooling are not correct and released design requires extensive rework/corrections. Our driving event/milestone is LRIP 4, [redacted] Delivery. The Program impact if not approved will result in an inability to build [redacted] at rate and continued high QAR cost. Current build method is not compatible with [redacted] requirements.

[redacted] engineering is trying to correct all [redacted] and process changes by an Engineering Change Request. DCMA will monitor progress during deck reviews.

Report Scope

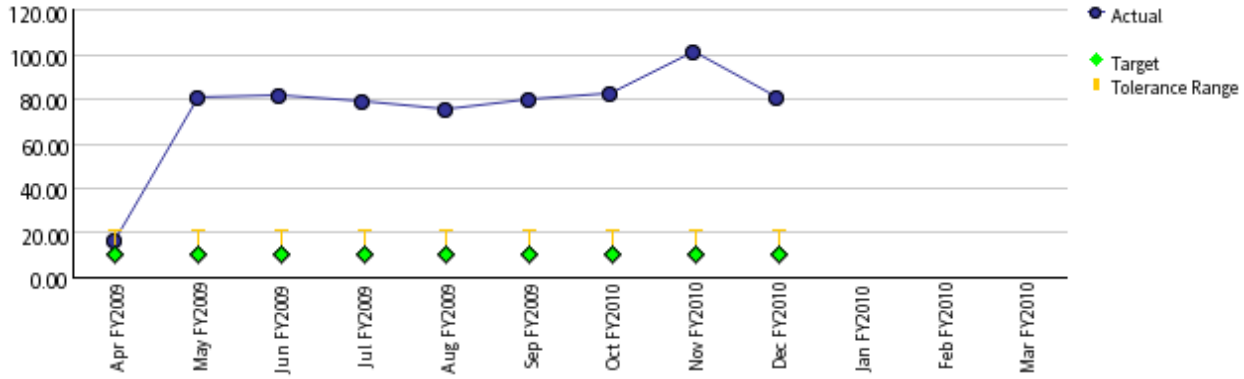
DCMA is conducting a process improvement initiative on the Monthly Assessment Report (MAR) therefore the content and format will be changing.

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%)	G

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 -81 Mdays for month end December. Average consists of all LRIP 1 and 2 aircraft, and six LRIP 3 aircraft that have passed their baseline start dates.

LRIP 1 – As of month-end December data, clearance for the [redacted] and the [redacted] have been added to the IMS. The AF-6 critical path driver is the verification fit check for the [redacted] mitigation activities are in-work. AF-7 critical path driver is the unmonitored flight clearance data from AF-6. For month-end December, AF-6 is ~76.5% complete, and AF-7 is ~75% complete. LRIP 1 is now averaging ~6.9 months late to DD-250 dates. This is a regression of ~ 1 month from month-end November which can be attributed to non-standard work and pressure from SDD.

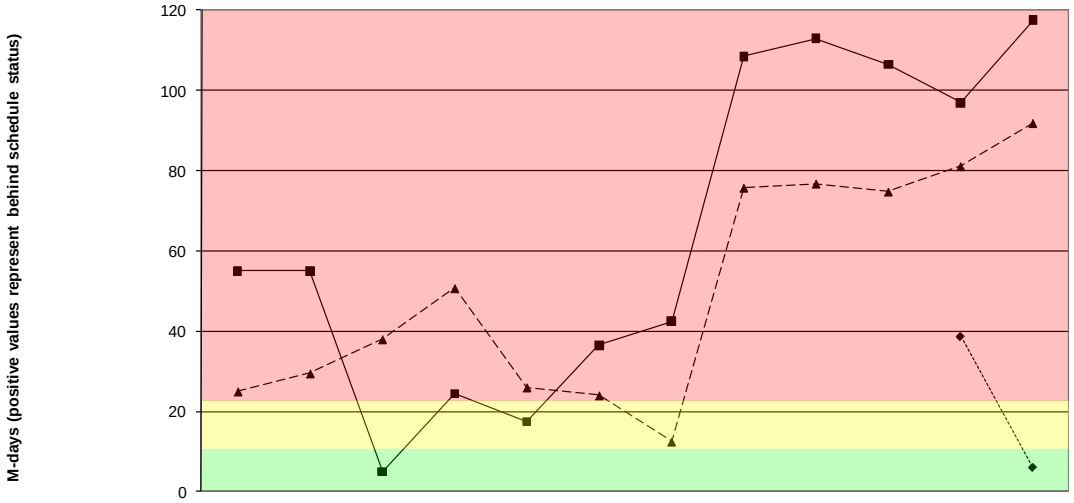
LRIP 2 – All LRIP 2 Forward Fuselages, Wings, Centers and Aft Fuselages are in work. [redacted] completed one [redacted] (BF-9) and two [redacted] (AF-9 and AF-10) in January. These three assemblies averaged 10.7 M-days late to contract, an improvement from December 2009's value of 19 M-days late. There are only three major assemblies overdue for completion, all of them were due in January; the [redacted] for AF-11 and the [redacted] for AF-10 and AF-11. The last four [redacted], BF-6 thru BF-9 have been held at [redacted] awaiting out-of-station incorporation of [redacted] This CR has been incorporated on BF-6 and the assembly was shipped to LMFW the last week of January. BF-7 thru BF-9 are expected to be completed and shipped to LMFW in February. [redacted] BF-6 [redacted] s now scheduled for 8 Mar 2010. The shipping dates for BF-6 thru BF-11 have all been rescheduled. The primary driver for these schedule slips is to facilitate the incorporation of the LM Aero requested wire harness upgrades. Currently [redacted] is ahead of their internal plan to support the LM Aero EMAS load dates for BF-6 and BF-7.

AF-8 (first CTOL) critical path is at -108 M-day's total slack to DD-250 for month-end December. BF-6 (first STOVL) is at -103 M-day's total slack to DD250. The Forward Fuselage for AF-13 has left station [redacted] (at ~88% complete) as of 9 Dec 09. This is a 58 day variance to the baseline, the least amount of variance for an LRIP Forward Fuselage to date. The Wing for AF-13 moved out of station [redacted] on 15 Dec 09, a 50 day variance to the baseline, and is ~80% complete at month-end December. Concerns continue to be timely availability of tooling (EMAS units completing on time) and late part deliveries to various SWBS's.

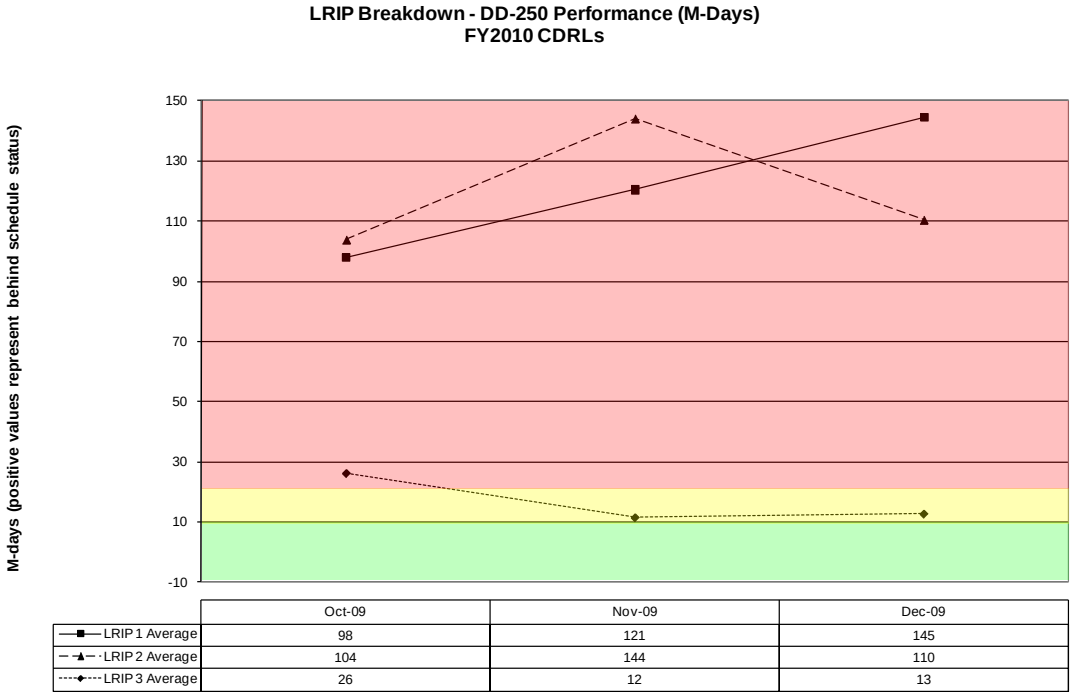
For month-end December, LRIP 2 aircraft are averaging ~5.3 months late to their DD-250 dates. This is approximately a 1.5 month improvement over month-end November due to progress in structural mate areas, ongoing mitigation efforts, [redacted] solution, and the re-prioritization of [redacted] by production. However, early DD-250 deliveries are not expected to be achievable.

LRIP 3 – Forward Fuselage for BF-12, AF-14, BF-13, and AF-15 are in-work. Wing work for BF-12, AF-14, BF-13, AF-15, BF-14, AF-16, and BK-1 continues. For month-end December, [redacted] s now working on nine [redacted] assemblies, with the first two LRIP 3 [redacted] BF-12 & AF14) at over 50 % complete. [redacted] has begun work on the [redacted] or BF-12 on 27 Nov 09. [redacted] work is projected to begin on schedule in early 2010. BF-12 (first STOVL) critical path is at -31 days total slack to DD-250 due to projected late delivery of Lift Fan – mitigation continues to be worked. AF-14 (first CTOL) critical path is at -16 days total slack to DD-250 due to receipt of [redacted] – CAM is meeting with supplier to improve deliveries. Along with the above mitigation efforts, another area of concern is the availability of tooling as a result of LRIP 2 setbacks. LRIP 3 aircraft that have passed their baseline start dates continue to average less than 1 month late to their DD-250 dates. Schedule pressure from SDD and earlier LRIP builds is being evaluated as part of MS 6.2 development.

LRIP Breakdown - DD-250 Performance (M-Days)
FY2009 CDRLs



	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09
LRIP 1 Average	55	55	5	25	18	37	43	109	113	107	97	118
LRIP 2 Average	25	30	38	51	26	24	13	76	77	75	81	92
LRIP 3 Average											39	6



	Oct-09	Nov-09	Dec-09
LRIP 1 Average	98	121	145
LRIP 2 Average	104	144	110
LRIP 3 Average	26	12	13

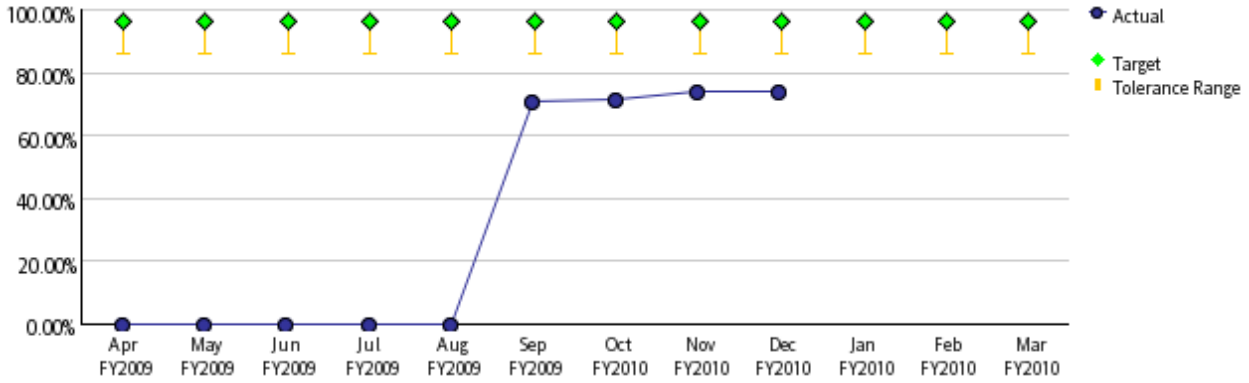
Contractor Actions: Mitigation activities such as the use of overtime, span adjustments, and out of station installation of late parts continues. For LRIP 1, LM Aero has submitted a draft contract modification to the government as a result of contractual DD-250 dates that cannot be achieved per the current schedule. For LRIP 2, a draft replan is in-work to rebaseline the PMB with revised DD-250 dates. Overall, another revised Program schedule [redacted] will is projected for summer 2010. This will be the seventh schedule since Program inception.

DCMA Actions: DCMA LMFW [redacted] Production and [redacted] Team members will continue to monitor contractor performance to contractual baseline and results of implemented mitigation activities.

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 December, BF-13 is ~14% complete compared to ~36% complete scheduled. BF-13 is projected to be 12 M-day's late to the 31 May 11 DD-250 date.

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: No appreciable trend

Summary of Indicator Status: Assessment of Key Suppliers average Delivery rate was 74.49% month end December 2009.

Root Causes: Suppliers with notable delivery rates were:

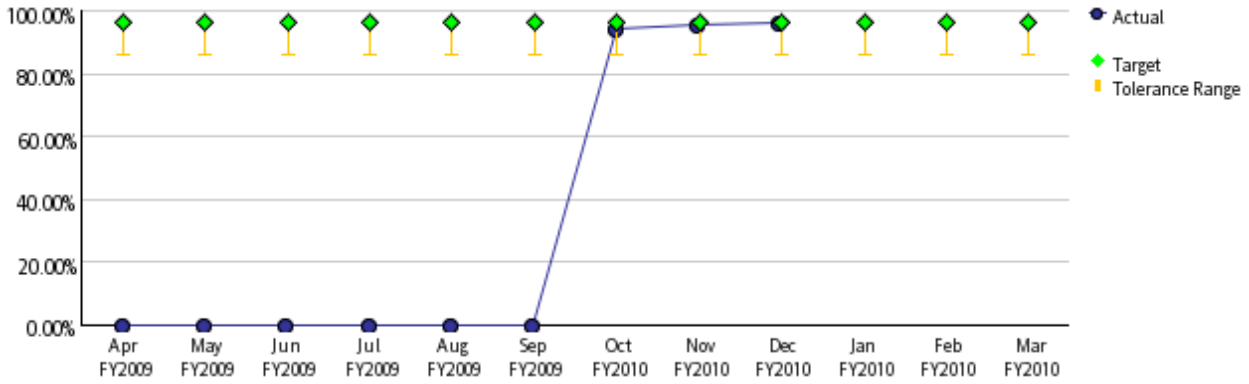
Component (Contractor)	Delivery Rate	Component (Contractor)	Delivery Rate
[redacted]	[redacted]	[redacted]	[redacted]

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

[redacted] notes: "all [redacted] are delivered 100% of time, other TFE deliveries are 71% for month of Jan"

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. There has been a noted improvement in [redacted] rate from prior reporting period. Two top drivers continue to be [redacted] – primarily attributed to the [redacted] providing parts and materials for the JSF platform.

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

[redacted]

Data as of: 10 Feb 2010 Lower metric shows 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] 37 months normalization is [redacted] for the past 6 months.
Summary of Metric Status: Metric illustrates improving trend that has been maintained for the CY10 period. They have continued to reduce MR defects per 1000 HRS for the past 15 month.
Root Causes: N/A
Contractor Actions: They are exceeded their goal for MR actions for CY10.
DCMA Actions: Reducing the goal to reflect an effort to further reduce the amount of MRB actions for this year. We are setting up MR training for the QASs and Engineers as we are going to start accepting and rejecting minor non-conformances. The training is scheduled for March time frame and the accepting and rejecting will begin approximately April 15, 2010
Estimate when PC will achieve goal: PC has achieved goal as set last year.

Below is MR data from select subcontractors:

[redacted]

Trend:
DCMA is still attempting to gain access to in line MR which [redacted] has denied.
Summary of Metric Status:
DCMA is conducting a process audit on the [redacted] Vendor Requests for Material Review (VRMR). VRMR are being audited for proper identification of Root Cause and Corrective Action. Additionally, proper classification of the nonconformance is being verified.

During [redacted] buyoff of [redacted] generated a VRMR for an [redacted] has classified the [redacted] as a minor nonconformance and dispositioned it "use as is". IAW MIL-HDBK-61A, any non-conformance involving [redacted] should be classified as major. IAW FAR 46.407, the Contracting Officer is the only

person that can authorize the disposition of a major nonconformance. DCMA [redacted] has advised [redacted] that they are not authorized to disposition a major nonconformance. DCMA [redacted] has informed them that a CAR will be issued if they decide to sell the [redacted] to LM Aero without a Variance for the major non-conformance at the subcontract level. On 22 Jan 10, [redacted] contended that they are not in violation of their Performance Based Specification (PBS) with LM Aero. [redacted] is currently in deliberation on the subject, and DCMA [redacted] will continue to follow until closure.

Qualification Testing – Upon re-assembly of the [redacted] after the [redacted] during qualification, a problem occurred with a [redacted] The re-assembly was immediately stopped as soon as something was found to be wrong. [redacted] now plans to submit a Test Failure Resolution Report (TFRR) for the [redacted] to Lockheed Martin in order to request approval to continue Qualification Testing.

[redacted] has investigated the problem along with [redacted] in order to determine the cause, [redacted] However, other factors are also being investigated as a Root Cause [redacted] has now found a different supplier for the [redacted] who can deliver it in about 2 wks. Qualification [redacted] due to the aft bulkhead [redacted] issue.

During Acceptance Testing [redacted] The system [redacted] has generated a Corrective Action Disposition (CORAD), which was followed up by a Quality Assurance Technical Notice (QATN) for the failure.

Root Causes: Root Cause of the failure was unknown,

Contractor Actions:

[redacted] Corrective Action was based on data from previous test results, which was to [redacted]. The [redacted] has been replaced with a new unit and the defective drive was returned to the vendor (RTV). The system was re-tested and passed Acceptance Test

DCMA Actions: Actions: They are getting push back from the contractor for DCMA participation in the MRB process. DCMA LM is working to have LM FT Worth amend Appendix QX. DCMA [redacted] has informed them that a CAR will be issued if they decide to [redacted] to LM Aero without a Variance for the major non-conformance at the subcontract level. On 22 Jan 10, [redacted] contended that they are not in violation of their Performance Based Specification (PBS) with LM Aero. [redacted] is currently in deliberation on the subject, and DCMA [redacted] will continue to follow until closure.

Estimate when PC will achieve goal: N/A

[redacted]

Trend: Red

Summary of Metric Status: The metric is Red. For the second month in a row (November's data is [redacted] by the end of lot 3 on LRIP 3, hence no corrective action is required from the contractor; however, there is still a problem with the validity of the data submitted.

Root Causes:

[redacted] The contractor points to the fact that other data collected (e.g. [redacted] have remained constant or trended downward as proof of the disputability of the figures. They maintain that there is an error in the software that defines the data query that pulls this data; however, they have been unable to isolate the problem.

Contractor Actions:
[redacted] personnel and DCMA [redacted] personnel will meet on January 27 and it is anticipated that [redacted] personnel will recommend incorporation of a different measure; [redacted]

DCMA Actions:
DCMA [redacted] concedes that there is an error in the data query as evidenced by changes in the data from month-to-month [redacted]

Estimate when PC will achieve goal: Unknown

DCMA [redacted]

Trend: Green.
Summary of Metric Status: They are reporting that they have had no MRB actions.
Contractor Actions: N/A
DCMA Actions: N/A
Estimate when PC will achieve goal: N/A;

DCMA [redacted]

Trend: CoPQ Performance improved from the last several months. **Green**
Summary of Metric Status:
The Advanced Composite Center (ACC) Cost of Poor Quality (CoPQ) was [redacted] in January. The 2009 average was [redacted] Metric is erratic due the intermittent scrapping of high dollar value items. In January, [redacted] cost driver was [redacted]

Root Causes:
[redacted]

Contractor Actions: N/A
- Performing Formal Root Cause Corrective Action for various process deficiencies
- [redacted]
- Tailored sacrificial plies for CTOL Forward Duct IML machining completed

DCMA Actions: DCMA will monitor and report [redacted] progress on their Corrective Action.
Estimate when PC will achieve goal: After implementation of [redacted]

DCMA [redacted]

Trend: Red
Summary of Metric Status: DCMA **cannot** ensure or determine that MRB or Minor Variances are classified correctly. Risk Rating is Red (based on LM Aero failure to flow down FAR 52.246-3 requirement to suppliers) a Corrective Action Request (CAR) was written to remedy this situation.
Root Causes: [redacted] is using Configuration Management Certifications' and delivering product with quality/design deficiencies "as engineered" configurations.

Contractor Actions: [redacted] is 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 Aeronautical Systems Division, DCMA LM Fort Worth has written a Level II, Corrective Action Request, #AJHC-09-009, to give the Government at [redacted]

DCMA Actions:
DCMA influences the contractor to properly classify Material Quality Deficiencies' into "MRB or Minor Variances (Material dispositions, Waivers and Deviations) by being a member on Material Review Boards, Corrective Action Boards, and Active Risk Management Boards. DCMA works with the contractor to determine root causes for improper classifications and advocates that appropriate correct actions are in place through these Boards. Material Variances are evaluated in ensuring that deficiencies are correctly identified, and that the appropriate corrective actions are performed to preclude it from reoccurring.

However, [redacted] This configuration management process approach leaves DCMA with no basis to "metrically" assess the correctness of variances/changes classifications. Consequently, DCMA does not have any set decision criteria to report correctness of classifications against; quality audits are not being conducted to ensure that the rationale used for product acceptance was of sound engineering, and that associated risks are identified in terms of cost, schedule, and/or technical performance for each decision made. Therefore, DCMA [redacted]

Estimate when PC will achieve goal:
The goal can be achieved when [redacted] uses the configuration management process "approach" under contracts/IWTAs. In [redacted] LRIP production, the goal can be achieved when the contractor fills out the "Request for Variance – JSF [redacted] for Minor Variances in accord [with] LM Aero flow down requirements. That is the "Request for Variance – JSF [redacted] is retained and available for review in accordance with [redacted] for non-conforming items.

[redacted] has certified that this process is mature on the LRIP Configuration Management Certifications and not placing any Requests for Minor Variances for information, or evaluation purposes with their customer, unless, a Major Variance was disapproved and LM Aero requests a Minor Variance submittal. Also, these classification determinations are decisions between [redacted] and LM Aero, and not based on any set decision criteria.

[redacted]

Trend: Unknown
Summary of Metric Status:
DCMA notification regarding Material Review has greatly improved since it began on Dec 7th. However, there is still is some concern on the process to include verbiage used by MRB Engineering. This also includes updating the MRB Authorization List. These items are now a part of the MRB Working Group.

Findings and possible trends include [redacted]

Root Causes: Unknown

Contractor Actions: unknown
DCMA Actions:
MRB Participation- Began 7 Dec 09
DCMAS personnel will continue performance of concurrent inspections and to monitor continuous quality improvement efforts by LM Production Operations. These daily efforts will aide in the reduction of reworks, repairs, and scraps. Results would be in the improvement of products, a considerable cost reduction, and a more reliable schedule
Estimate when PC will achieve goal: N/A

[redacted]

Trend: Improving Green
Summary of Metric Status:
The cumulative MRB reduction rate computed using the total accumulated rejection. Monthly target is the 10 % annual reduction goal weighted across FY 10 using FY 2009 normalized rejected quantity of [redacted] pieces. The goal for December is 77.5 %, and December data (cumulative data of 3 months) is 92.3 %. Therefore December metric is green.
Root Causes: [redacted]
Contractor Actions: Contractor will resolve nonconforming by discontinue using the nonconforming supplier.
DCMA Actions: 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 [redacted]
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.

[redacted]

Trend: Unknown
Summary of Metric Status:
153 Material Review Board actions were processed at [redacted] on the F-35 program in November and 120 in December 2009. [redacted] issued 6 Corrective Action requests in November and 4 in December 2009. CARS were issued to [redacted] For the month of November 2009 there was one repeat CAR issued to [redacted] The nonconformance was identified as [redacted]
Root Causes: The root cause was found to be [redacted]
Contractor Actions: Issued CARs to Sub suppliers
DCMA Actions: DCMA [redacted] did not issue any CARS during the time period.
Estimate when PC will achieve goal: N/A

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] reported in the December 2009 Cost Performance Report (CPR). DCMA IEAC is [redacted] for the SDD contract. This DCMA IEAC is based upon the December 2009 CPR report.

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 FY2011[redacted]

LM Aero has prepared EAC8 Cycle 2 incorporating DCROM base of potential threats and pressures in the November 09 CPR report. The latest EAC has no MR remaining, further straining the financial management of the Program. The EAC8 cycle 2 is under DCMA review to verify that potential suppliers' cost growth, future TCRs, etc., are considered in the DCROM. The LM Aero's EAC8 projected MR is zero and therefore will be unavailable to offset any risks remaining in flight testing and software coding. Without that reserve, and assuming the same efficiencies, the Program is likely to require additional funding for completion of the SDD contract. LM Aero has completed EAC9 and will incorporate in the Nov 09 CPR report. Preliminary assessment by LM Aero indicates that an additional amount of [redacted] will be required to complete the contract.

Using the Standard formula based on cumulative SPI and CPI (since replan) 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 LM Aero's BAC or [redacted] higher than LM Aero'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 [redacted]

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 10%	Baseline Revs 5%
[redacted]						**9.1%**	[redacted]	**N/A**

Primary Trip Wires –

(a) System Indicator: Please see EV section of 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.

Secondary Trip Wires –

- SDD Baseline Execution Index (BEI): Cumulative tasks from October 2001 thru November 2009: Cum BEI = 145,894 Completed Tasks/149,719 Planned Tasks = 0.97
- SDD Monthly (November 2009) Tasks: 340 Completed Tasks vs. 942 Baselined to Complete Tasks
- SPI (since replan) = BCWP/BCWS= 0.975
- SDD CPLI= (1220 + (110)/1220 = 0.91 (Time Now = 29 Nov 09)
- CPI (since replan) = BCWP/ACWP= 0.951
- CPI/TCPI= 0.951/1.038=.916
- Contracts Mods – (BAC now)/original BAC 10/01= [redacted] =1.40

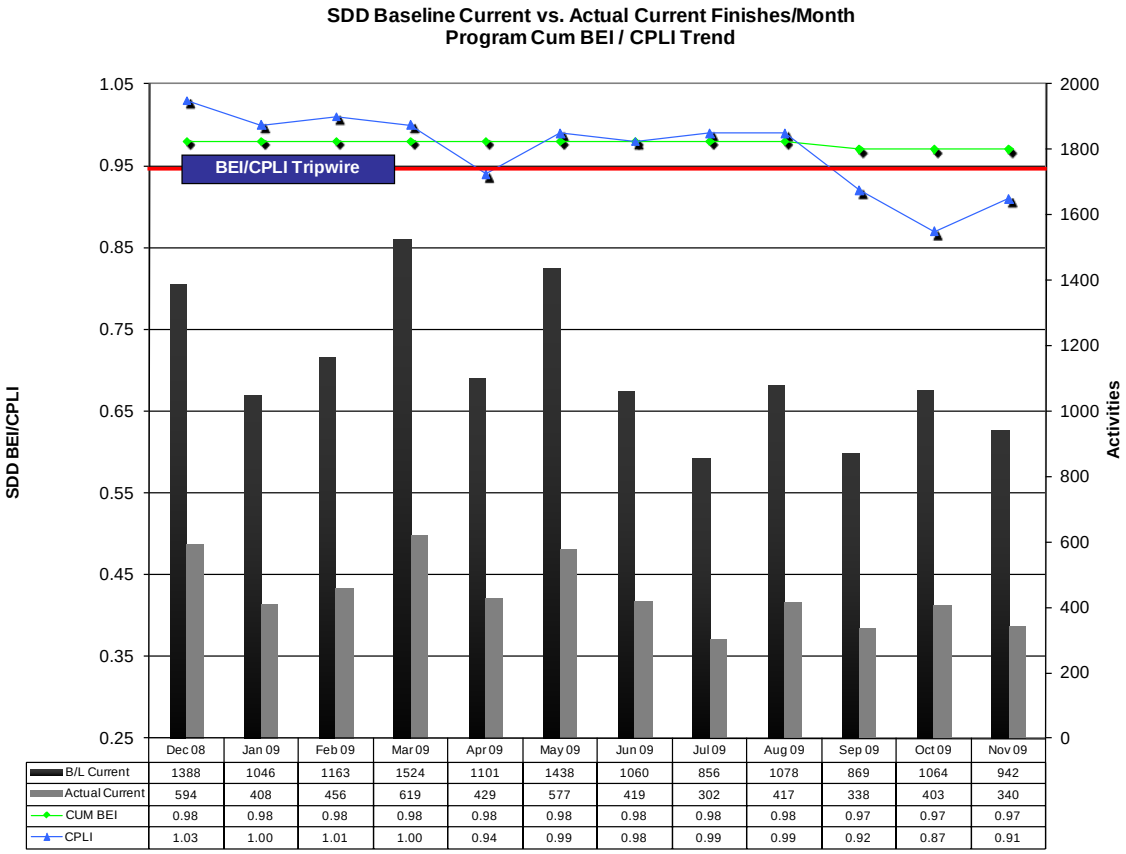
The DCMA Risk Rating for EVMS at the total Program level is rated green, using the parameter of VAC (-5.495%).

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

$TCPI_{DCMA\ IEAC}$ = 0.854
$TCPI_{LM\ EAC}$ = 1.038

NSF198AJ08 Sub-Indicators: Description: 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 equal s 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



	Dec 08	Jan 09	Feb 09	Mar 09	Apr 09	May 09	Jun 09	Jul 09	Aug 09	Sep 09	Oct 09	Nov 09
B/L Current	1388	1046	1163	1524	1101	1438	1060	856	1078	869	1064	942
Actual Current	594	408	456	619	429	577	419	302	417	338	403	340
CUM BEI	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97	0.97	0.97
CPLI	1.03	1.00	1.01	1.00	0.94	0.99	0.98	0.99	0.99	0.92	0.87	0.91

Cumulative SDD Program BEI is at 0.97, while Cum CPLI is at .91 for month end November 2009 (BEI/CPLI data for month-end December not available). Monthly planned finishes versus actual performance continues to average an approximate 40% completion rate. [redacted] baseline replan dates were incorporated into the IMS month-end May 2008. [redacted] is currently projected for mid-CY2010.

Earned Value

The complete EV report is attached:

10-02-17 JSF EV

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